364

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

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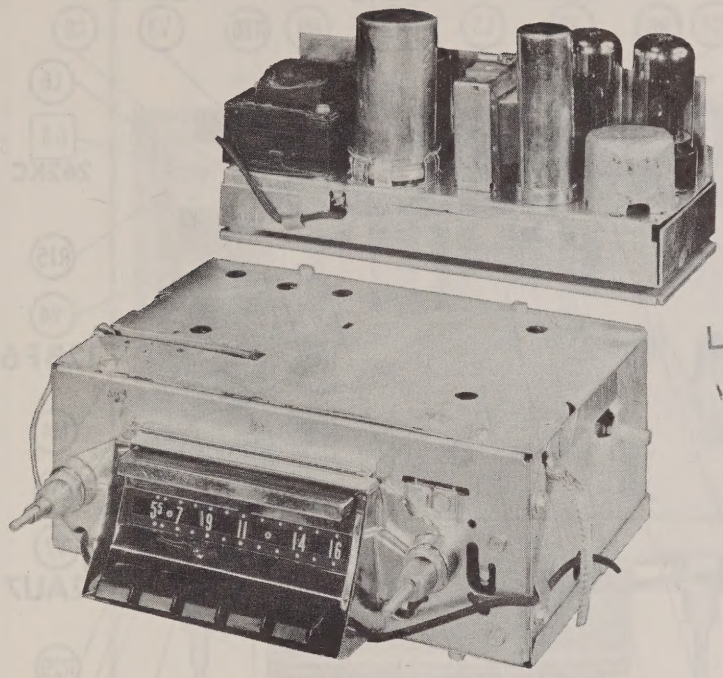
CHEVROLET
MODEL 987577

CHEVROLET
MODEL 987577



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CHEVROLET
MODEL 937577

TRADE NAME	Chevrolet Model 987577 (For 1957 Chevrolet Automobiles)
MANUFACTURER	Delco Radio Div., G. M. Corp., Kokomo, Indiana
TYPE SET	Battery Operated Custom Built AM Automobile Receiver
TUBES (Eight)	Types 12BA6 RF Amplifier, 12BE6 Converter, 12BA6 IF Amplifier, 12BF6 Det. -AVC-AF Amp., (2) 12V6GT Output, 12AU7 Trigger, 0Z4 Rectifier
POWER SUPPLY	12 Volt Storage Battery — RATING 3.2 Amp. @ 12.6 Volts DC
TUNING RANGE—BROADCAST	540KC-1600KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Sensitivity control to Position 1. Tone control to Treble.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1MFD	High side to pin 7 (grid) of 12BE6 (V2) Low side to chassis.	262KC (400 Mod.)	High frequency end stop	Across C12 (AVC Filter)	A1, A2, A3	To tune to high frequency end stop, place a .012" feeler gauge (or bare #28 wire) in slot against high frequency stop. Turn manual control until the planetary arm is against feeler gauge. Adjust for maximum deflection.
2	"	"	"	"	"	A4	Adjust for MINIMUM deflection.
	Check setting of oscillator coil core (A8). Rear of core should be 1 5/8" from mounting end of coil form.						
3	68MMF	High side to antenna receptacle. Low side to chassis.	1615KC	"	"	A5, A6 A7	Use feeler gauge as in Step 1. Adjust for maximum deflection.
4	"	"	600KC	Tune to 600KC signal	"	A9, A10	Adjust for maximum deflection.
5	"	"	1615KC	Tune to 1615KC signal	"	A6, A7	"
6	"	"	1100KC	Tune to 1100KC signal	"		If necessary, adjust dial pointer adjustment so that pointer coincides with 1100KC on dial.
7	With radio installed in car and antenna fully extended, tune in a weak station between 600KC and 1000KC, adjust A7 for maximum volume.						

PUSHBUTTON ADJUSTMENT

1. Pull pushbutton to the left and out.
2. Tune manually to desired station.
3. Press pushbutton in firmly.
4. Repeat on remaining pushbuttons.

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PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	12BA6	
V2	Converter	12BE6	
V3	IF Amplifier	12BA6	
V4	Det. -AVC-AF Amp.	12BF6	

ITEM No.	USE	TYPE	NOTES
V5	Output	12V6GT	
V6	Output	12V6GT	
V7	Trigger	12AU7	
V8	Rectifier	0Z4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	■20	400	6322	AFH3-120	C0990	FP345. 8	TMT-106	T-550	TVL-3678
B	▲20	400							
C	20	25							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

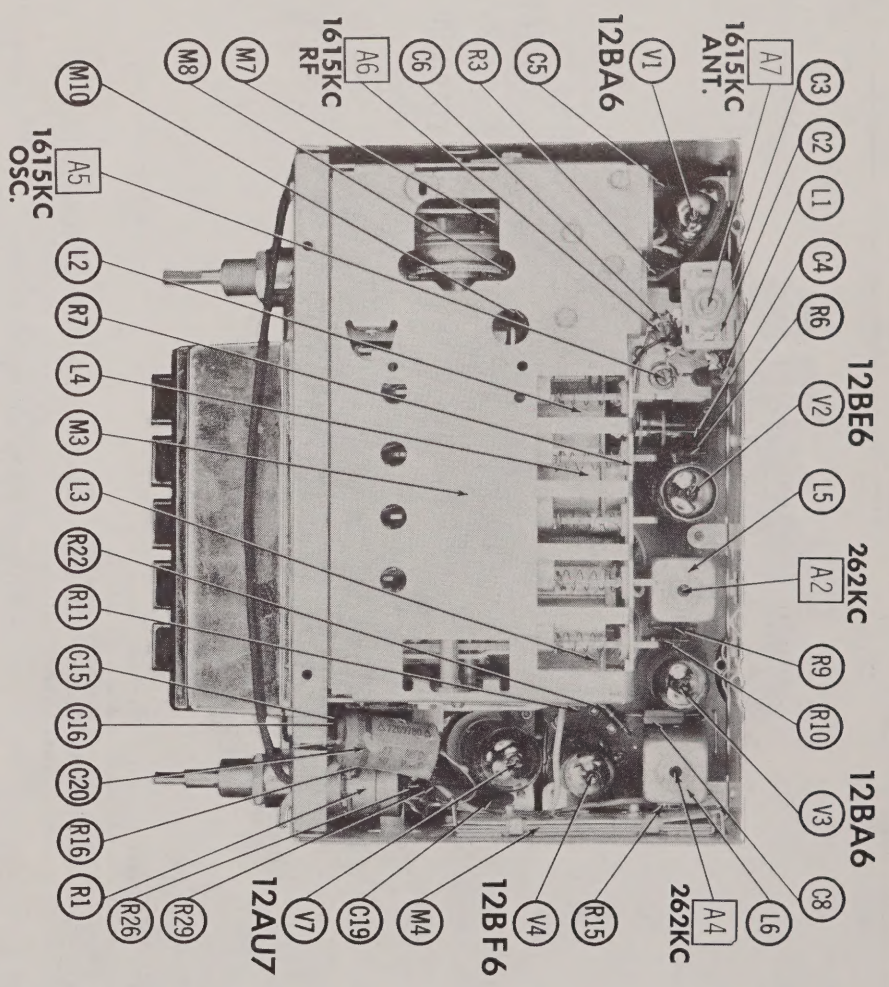
ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	DELCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2A	30-100		7268558							
B	100									
C3	68		6369	N750-SI 68	TCZ-68	C10Q68U	TC7-68		5TCC-Q68	N750
C4	.1	400	6613	P488N-1	DF-104	CUB4P1			4TM-P1	
C5	.047	200	6612	BPD-05	DF-503	CUB2S47		GEM-4147	2TM-S47	
C6A										
B			7268828							
C										
D										
C7	200		7268904	1469-0002		22R5T2			MS-32	5%
C8	100		1219498	1469-0001	TCZ-101	22R5T1	TC0-100	ZT-531	MS-31	5%
C9	39		6366	SI 39	D6-390	L10Q39	ED-39	UC-5439	5GA-Q39	
C10	.047	200	6612	BPD-05	DF-503	CUB2S47		GEM-4147	2TM-S47	
C11	100		1219498	1469-0001	TCZ-101	22R5T1	TC0-100	ZT-541	MS-31	5%
C12	.1	400	6613	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C13	.015	200	7237719	BPD-015	DD16-153	CUB6S15	ED-015	GEM-4115	4TM-S15	
C14	.001	600	6627	BPD-001	D6-102	CUB6D1	GP-1000	GEM-621	6TM-D1	
C15	68		6369	1468-000068	D6-680	22R5Q68	ED-68	UC-5468	1FM-468	
C16	2000		6342	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C17	470	1000	6379	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C18	.003	1000	6563	P1088N-003	DD16-302	CUB10D3		GEM-1023	10TM-D3	
C19	2000		6352	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C20	.47	50		P288N-47		CUB2P47		GEM-2047	2TM-P47	①
C21	.1	200	6690	P288N-1	DF-104	CUB2P1		GEM-211	2TM-P1	
C22	.47	100	6692	P288N-47		CUB2P47		GEM-2047	2TM-P47	
C23	.007	1600	6567	P1688N-007	DD16-702	CUB16D7		GEM-1627	MB-D7	

① Not used in some versions

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	500K	½	1220961				UE1476S	Tone
B	750K	½						Volume, Tap② 150K
C	Switch							

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	DELCO PART No.	IRC PART No.	
R2	2.2Meg		1239	BTS-2.2Meg	
R3	10K	1	1174	BTA-10K	
R4	330K		1229	BTS-330K	
R5	1.5Meg		1237	BTS-1.5Meg	
R6	22K		1227	BTS-22K	
R7	100Ω		1113	BTS-100	
R8	12K	2	1276	BTB-12K	
R9	10Ω		1101	BTS-10	
R10	150Ω		1115	BTS-150	
R11	1Meg		1235	BTS-1Meg	
R12	47K	1	1259	BTA-47K	
R13	1000Ω 5%		1220176	BTS-1000 5%	
R14	3300Ω 5%		1220173	BTS-3300 5%	
R15	100K		1223	BTS-100K	
R16	100K		1223	BTS-100K	
R17	1Meg		1235	BTS-1Meg	Note 1
R18	360Ω 5%	1	7234563	BTA-360 5%	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	DELCO PART No.	IRC PART No.	
R19	680K 5%		1220172	BTS-680K 5%	Note 2
R20	1Meg		1235	BTS-1Meg	
R21	180K		1226	BTS-180K	
R22	1.5Meg5%		1219492	BTS-1.5Meg5%	
R23	100Ω		1113	BTS-100	
R24	1000Ω		7269526	BTS-1000	
R25	47K			BTS-47K	
R26	5.6Meg		1244	BTS-5.6Meg	
R27	3900Ω	1	1169	BTA-3900	
R28	680Ω 5%		1219493	BTS-680 5%	
R29	120K		1212	BTS-120K	
R30	5600Ω	1	1171	BTA-5600	
R31	47K	1	1259	BTA-47K	
R32	33K 5%	1	7266230	BTA-33K 5%	
R33	15K	1	1253	BTA-15K	
R34	1800Ω				Note 3

Note 1. Some versions may use 560K.
Note 2. Some versions may use a 1Meg, 5% (Part #1235).
Note 3. Mfgr. states to replace R34 with 2700Ω, 2W & 5600Ω, 1W in parallel (Part #1204 & 1171).

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	DELCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	12.6VCT @ 2A	530VCT @ .066A			6067	V3902	P-2861	P-6489	22R52	V-31

TRANSFORMER (AUDIO INPUT)

ITEM No.	Resistance		REPLACEMENT DATA						NOTES
	PRI.	SEC.	DELCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	1820Ω tapped		1220902						

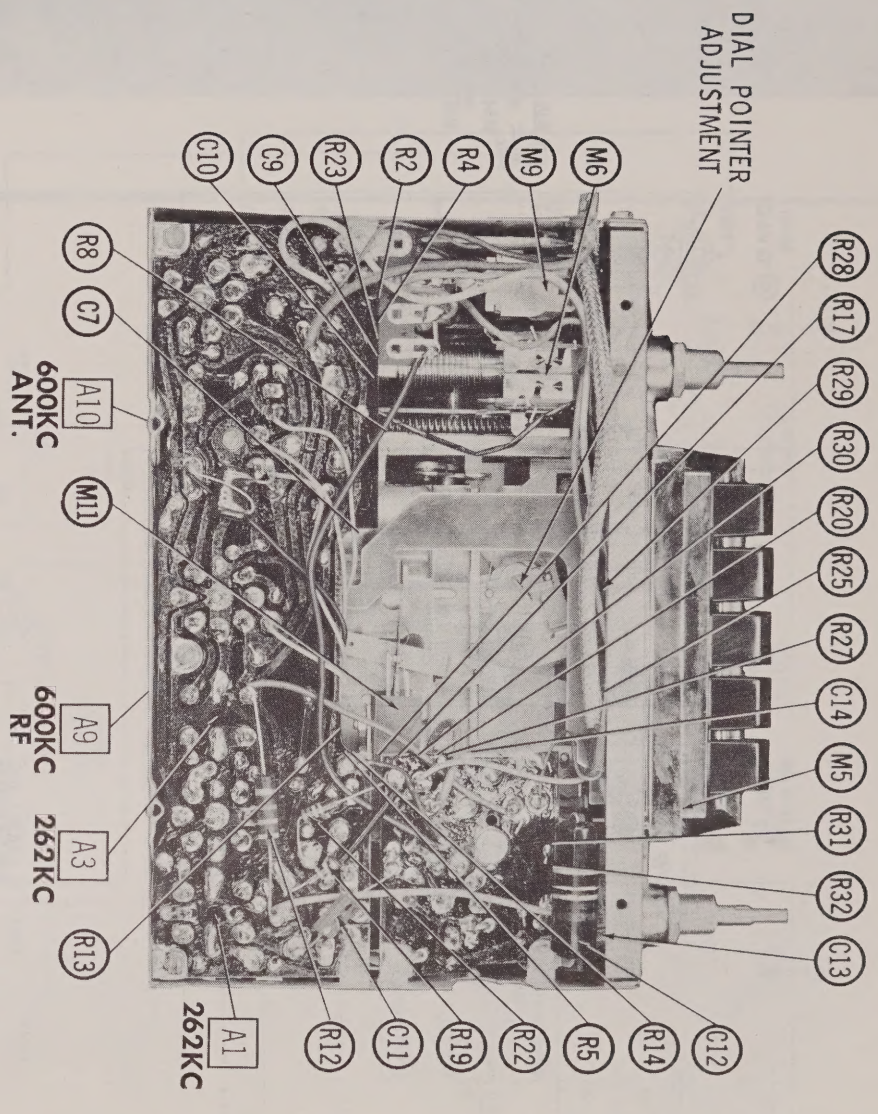
TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	DELCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T3	9300Ω CT	3-4Ω	7269231	Z1011 ①	A-3027 ①	A-3824 ①	26S59 ①	S-55X ①	① Fabricate mounting

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	DELCO PART No.	QUAM PART No.	
SP1	6"X9"	PM	3-4Ω	6112	69A2	

CHASSIS—BOTTOM VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		DELCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Coupling Coil	7255738	19-1004	BC-565	4610	6.5 Microhenries
L2	Ant. Coil	1221050				
L3	RF Coil	1221050				
L4	Osc. Coil	1221051				
L5	Input IF	1220990	16-6756	BC-317		
L6	Output IF	1220992				
L7	Hash Choke	1221077				42 Microhenries

VIBRATOR

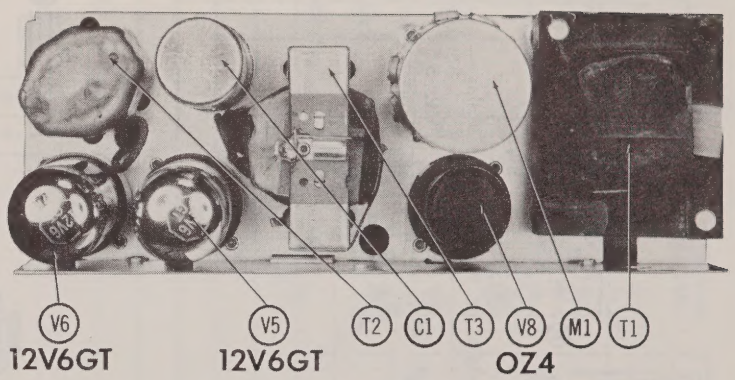
ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				DELCO PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M1	Interrupter	12.6V	115Ω	8555	6330	G1602/G883	6330	

MISCELLANEOUS

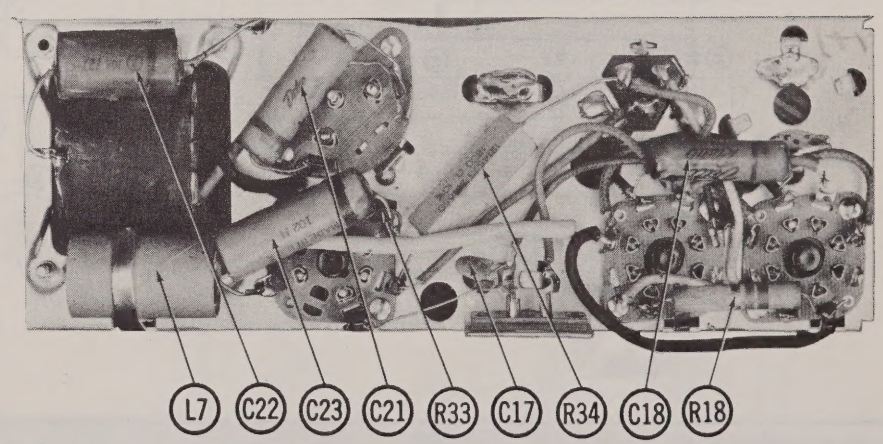
ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Dial Light		#1891
M3	Tuner		
M4	Spark Plate	1220885	
M5	Switch	7259526	Sensitivity
M6	Switch	7268030	Power Solenoid
M7	Switch	7269872	Station Selector
M8	Switch	7268030	Treadle Solenoid
M9	Solenoid	7268040	Power
M10	Solenoid	7268050	Treadle
M11	Relay	7269582	
	Knob	7268744	Tone, Dummy
	Knob	1990863	Tuning
	Knob	1990864	On-Off-Volume

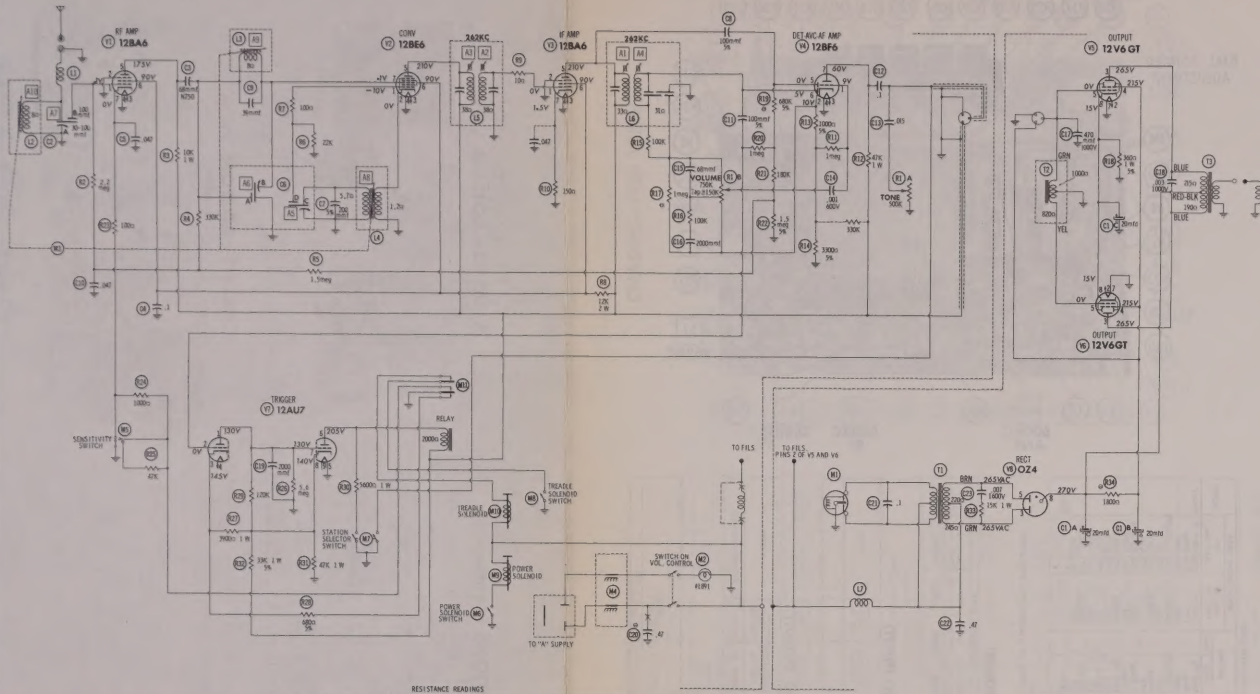
POWER

CHASSIS—BOTTOM VIEW



CHASSIS—BOTTOM VIEW





RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BA6	5.2Meg	0Ω	1.6Ω	0Ω	†12K	†14K	100Ω		
V2	12BE6	22K	1.2Ω	1.6Ω	0Ω	†1800Ω	†14K	3.3Meg		
V3	12BA6	48Ω	0Ω	1.6Ω	0Ω	†1800Ω	†14K	150Ω		
V4	12BF6	1Meg	4300Ω	1.6Ω	0Ω	2.2Meg	800K	†49K		
V5	12V6GT	NC	1.6Ω	†215Ω	†1800Ω	1000Ω	NC	0Ω	360Ω	
V6	12V6GT	NC	1.6Ω	†190Ω	†1800Ω	820Ω	NC	0Ω	360Ω	
V7	12AU7	165K	2.5Meg	50K	1.6Ω	0Ω	†3600Ω	165K	47K	NC
V8	0Z4	NC		245Ω		220Ω		TP	290(Min)	

† MEASURED FROM PIN 8 OF V8
NC NO CONNECTION
TP TIE POINT

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15ish voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

● SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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PHOTOFACT* Folder

*TRADE MARK

CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

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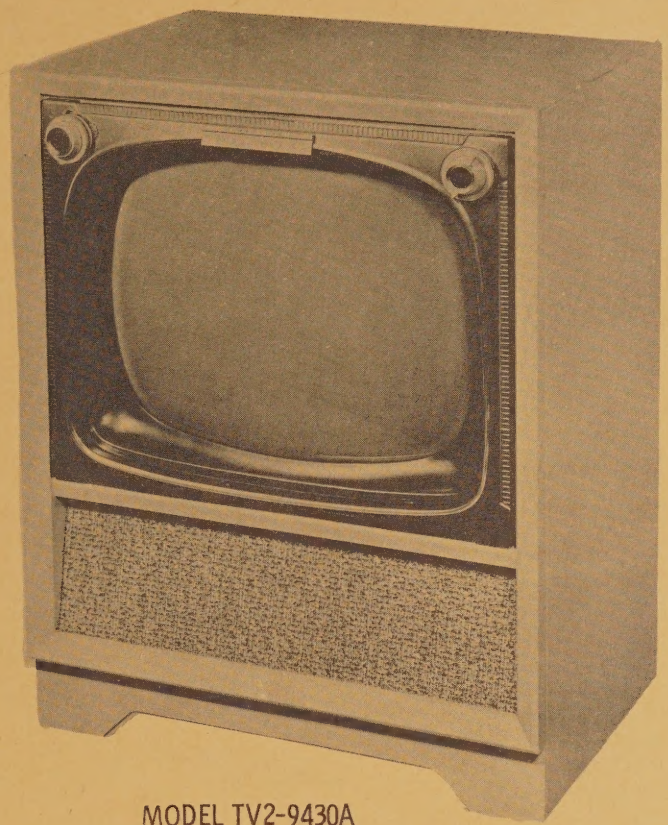

MODEL TV2-9430A

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DENVER, COLORADO

CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

TRADE NAME	Coronado Models TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV-9433A
SUPPLIER	Gambles-Skogmo, Inc., 15 North 8th. St., Minneapolis, Minn.
TYPE SET	Television Receiver
TUBES	Twenty-One
POWER SUPPLY	110-120 Volts AC, 60 Cycles RATING 195 Watts, 1. 74 Amp. @ 117 Volts, AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45. 75MC, Sound IF 41. 25MC (Intercarrier)

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*TRADE MARK

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MEADE ST.

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 9 push-on type control knobs.
2. Remove 6 wood screws. Remove rear cover.
3. Loosen 4 wood screws holding 2 antenna terminal boards. Remove terminal boards.
4. Remove wood screw holding side chassis brace.
5. Remove 4 speaker wires.
6. Remove 6 speed nuts. Remove 2 speakers.
7. Remove 4 metal screws holding chassis to rear of cabinet.
8. Remove chassis.

MODEL TV2-9430A

MODELS

TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustments of the VHF tuner oscillator circuit may be accomplished by removing the channel selector and fine tuning knobs.

PICTURE TUBE SAFETY GLASS CLEANING

Remove nameplate by pulling outward. Remove 2 metal screws holding retainer. Remove safety glass.

SERVICE ADJUSTMENT LOCATION

See tube placement chart on page 5.

FOCUS

Adjust ion trap for best focus consistent with maximum brightness.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Turn the horizontal hold fully clockwise and adjust the horizontal frequency slug (B1) until the picture is just about to tear out of sync at the top. The picture should then be in good sync with the horizontal hold at center of its rotation. If not, continue to turn the slug until it starts to lose sync in the other direction.

SOUND IF DETECTOR BUZZ ADJUSTMENT

Adjust the buzz control for maximum volume and MINIMUM buzz.

FUSES

One fuse is used for LV power supply protection. (For location see tube placement chart).

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

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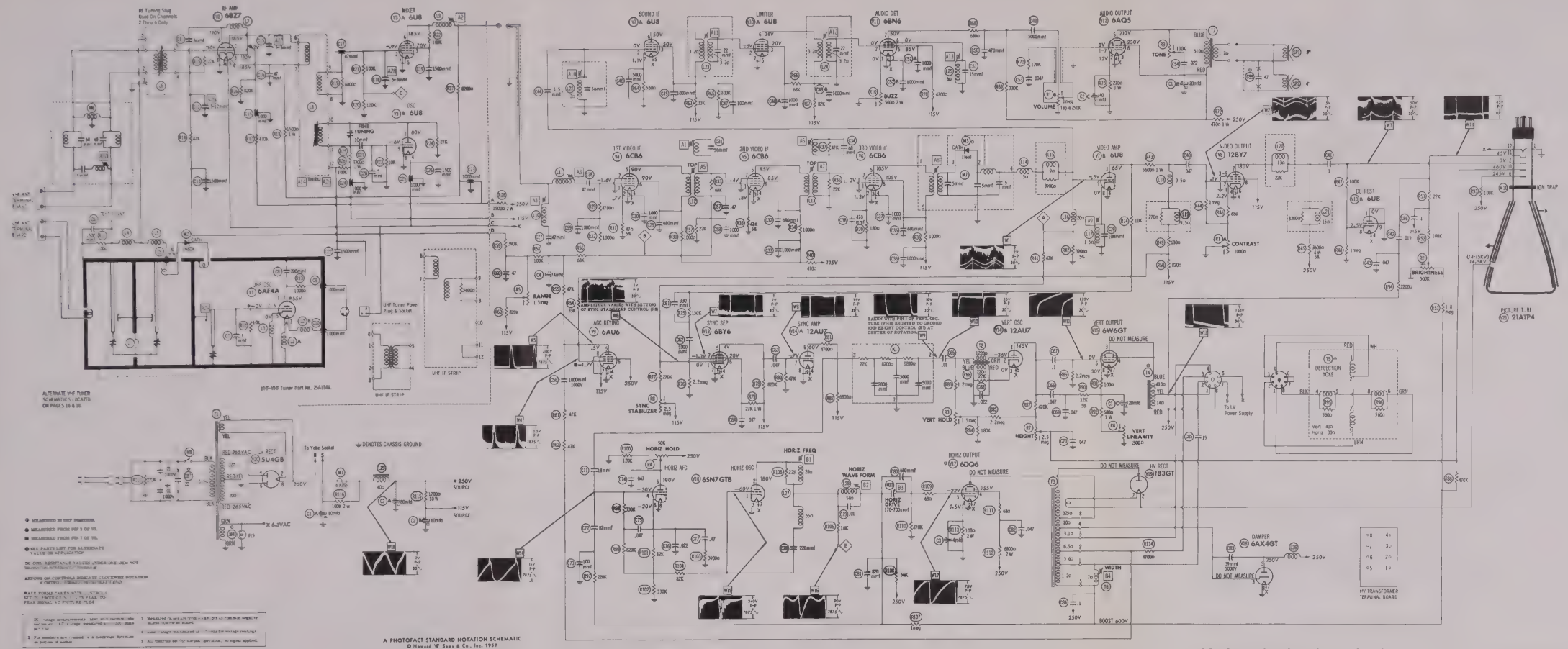
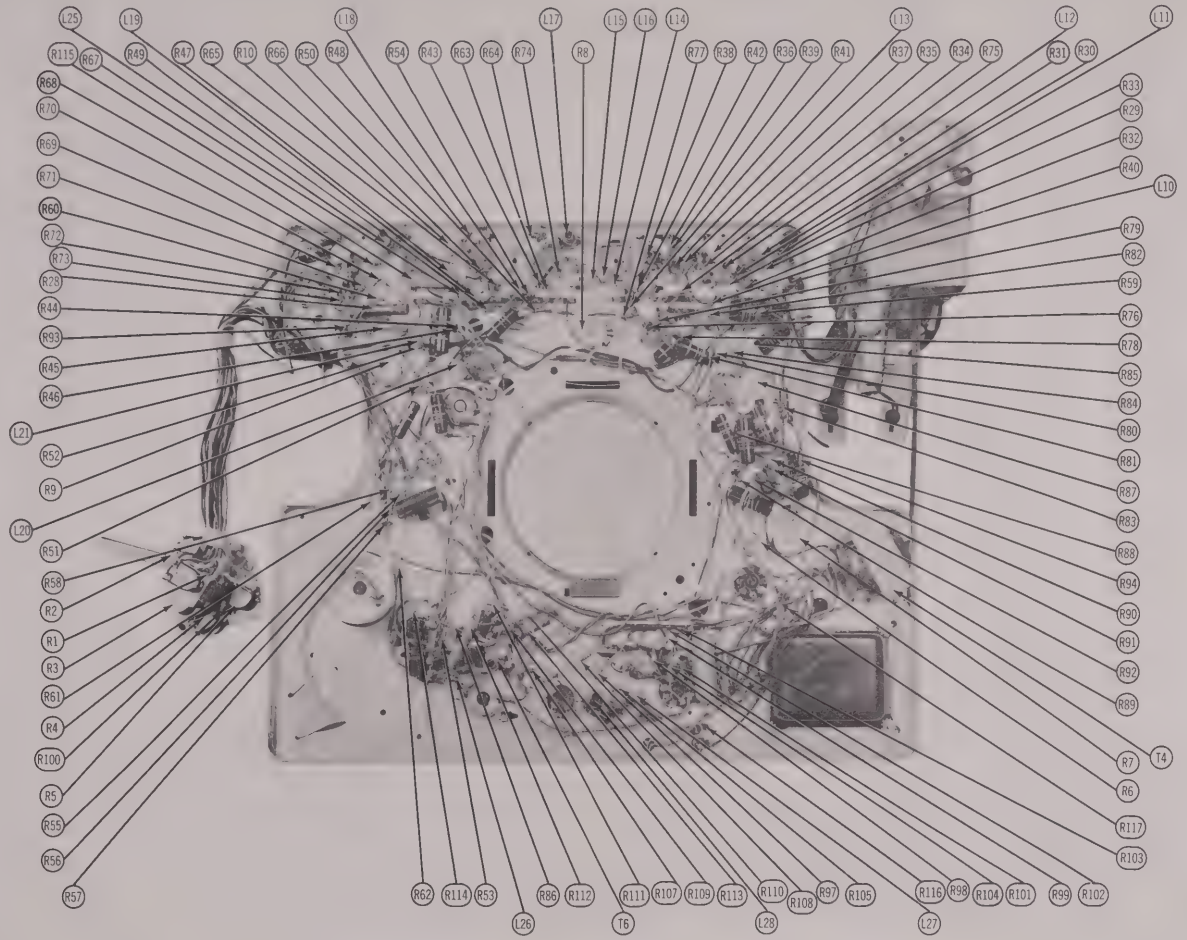
G87IR

DATE 7-57 SET 364 FOLDER 2



CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

TUBE FAILURE CHECK CHART

TUBE FAILURE CHECK CHART

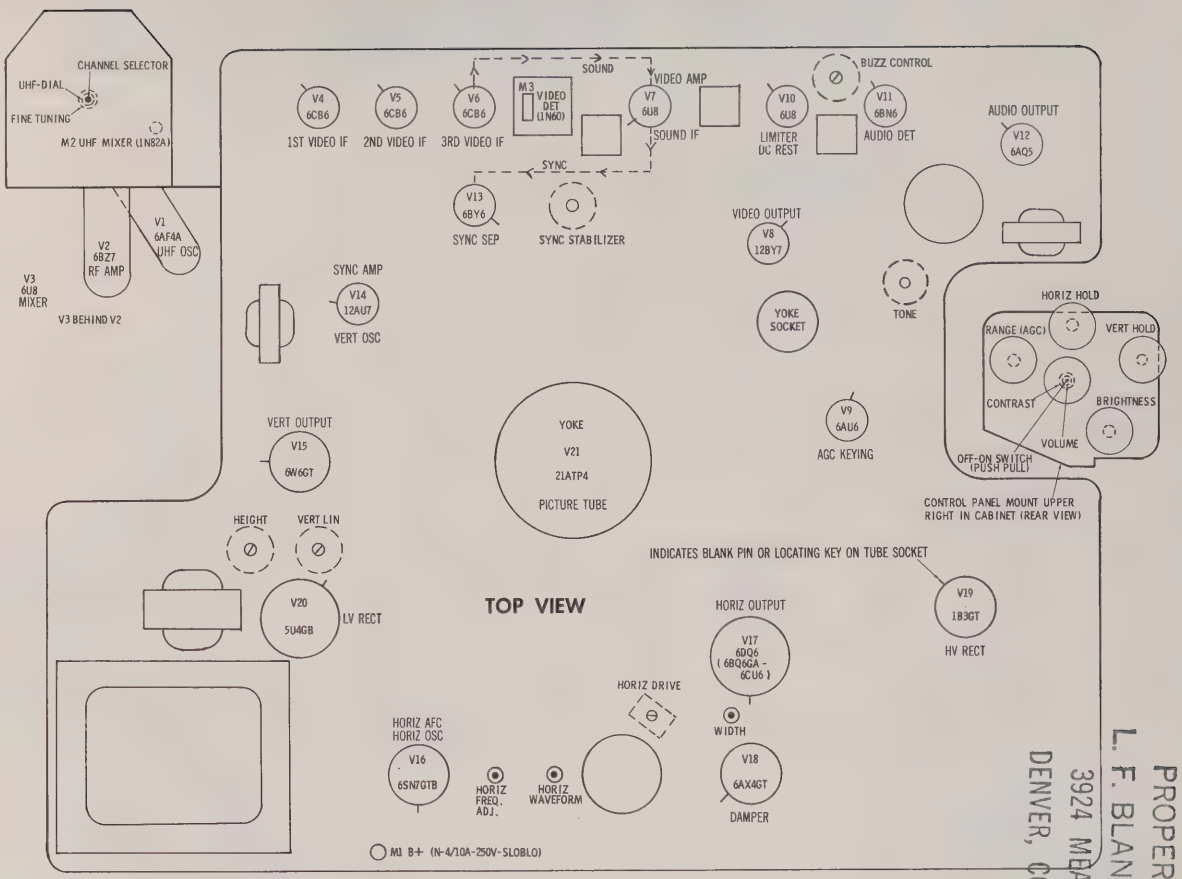
The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE
No raster, no sound - Fuse (M1), V20

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - V4, V5, V6, Diode (M3), V9
No pic, no sound, has snow - V1 (UHF), V2, V3, V4
No pic, has sound, has raster - V7, V8, V10, V21
Has pic, no sound - V7, V10, V11, V12
Overloaded picture -V9

SYNC FAILURE
No vert. sync - V13, V14
No horiz. sync - V13, V14, V16
No vert. or horiz. sync - V13, V14

SWEEP FAILURE
No raster, has sound - V16, V17, V18, V19, V21
No vertical deflection - V14, V15
Poor vert. linearity or foldover - V14, V15
Poor horiz. linearity or foldover - V16, V17, V18
Narrow picture - V16, V17, V18, V20
Vert. off freq. - V13, V14
Horiz. off freq. - V13, V14, V16



TUBE PLACEMENT CHART

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE St.
DENVER, COLORADO

CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage lead should be taped and kept away from the chassis.

VIDEO IF ALIGNMENT

When aligning receivers employing tuner #25A1147 (Neutrode); connect the sweep generator with very short leads through 1000MMF disc ceramic to pin 9 (grid, accessible thru a hole located between the two tuner tubes) of the 6CG8 (mixer) tube. Low side to chassis.
When aligning other receiver, connect the high side of the generator to an ungrounded tube shield floating over the converter tube. Low side to chassis.
For all receivers, connect the negative lead of a 1.5 volt bias supply to (B). Positive to chassis.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	See instructions above.		44MC (10MC Swp)	47.25MC	Any non-interfering channel.	Vert. amp. thru detector (Fig. 1) to pin 5 (Plate) of 6CB6 (V4). Low side to chassis.	A1	Adjust to place marker in trap notch as shown in Fig. 2.
2.	"	"	"	41.25MC 45.75MC	"	"	A2, A3, A4	Adjust A2 & A3 to shape top of response curve as in Fig. 2. Adjust A4 to correctly place 41.25MC marker at 40% as in Fig. 2. The 45.75MC marker must be correctly positioned or later adjustments will be incorrect. After desired response curve is obtained, do not change these adjustments.
3.	"	"	Not Used.	42.8MC (400~ 30% AM Mod.)	"	Vert. amp. thru 10K to point (A). Low side to chassis.	A5	Increase bias to -4.5 volts. Connect VTVM between point A and chassis and adjust generator output to produce -2 volts DC on meter. Remove VTVM. Adjust for maximum indication on scope.
4.	"	"	"	41.25MC	"	"	A6	Adjust for MINIMUM.
5.	"	"	"	45.3MC	"	"	A7	Adjust for maximum indication on scope.
6.	"	"	"	44.0MC	"	"	A8	"
7.	"	"	44MC (10MC Swp)	41.25MC 42.4MC 42.8MC 44.0MC 44.5MC 45.3MC 45.75MC 47.25MC	"	"		Check for response curve similar to Fig. 3. A8 controls the symmetry of top of curve. A7 will position 45.75MC marker. A5 is used to position 42.4MC marker. Retouch these adjustments only if necessary.

4.5MC TRAP ALIGNMENT

Connect the high side of the 4.5MC signal generator to point (A). Low side to chassis. Connect the AC probe of the VTVM to the cathode (pin 11) of the picture tube. Adjust A9 for MINIMUM deflection.
This adjustment may also be made by observing a picture from a station and adjusting A9 for MINIMUM 4.5MC beat interference in the picture.

SOUND IF ALIGNMENT

1. Tune in a TV station and reduce the signal with an attenuator between the antenna and the antenna terminals until a hiss accompanies the sound.
2. Adjust A10, A11, A12, A13 and the buzz control (R10) for maximum undistorted sound and MINIMUM buzz.
3. If hiss disappears during alignment, further reduce signal strength until the hiss returns.

VHF OSCILLATOR ALIGNMENT

Leave 4.5 volt bias connected as under "Video IF Alignment".
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the fine tuning control to the mid-position of its range.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC 215.75MC	13	Vert. amp. thru 47K to point (A). Low side to chassis.	A14	Adjust to place sound marker in trap notch as in Fig. 4. Video marker should fall at 50%.
			207MC (10MC Swp)	205.25MC 209.75MC	12		A15	
			201MC (10MC Swp)	199.25MC 203.75MC	11		A16	
			195MC (10MC Swp)	193.25MC 197.75MC	10		A17	
			189MC (10MC Swp)	187.25MC 191.75MC	9		A18	
			183MC (10MC Swp)	181.25MC 185.75MC	8		A19	
			177MC (10MC Swp)	175.25MC 179.75MC	7		A20	
			85MC (10MC Swp)	83.25MC 87.75MC	6		A21	
			79MC (10MC Swp)	77.25MC 81.75MC	5		A22	
			69MC (10MC Swp)	67.25MC 71.75MC	4		A23	
			63MC (10MC Swp)	61.25MC 65.75MC	3		A24	
			57MC (10MC Swp)	55.25MC 59.75MC	2		A25	

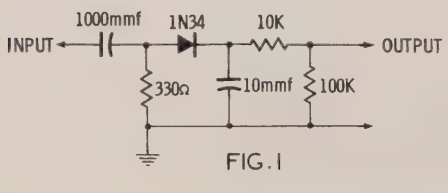


FIG. 1

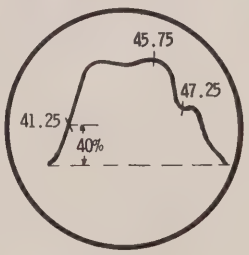


FIG. 2

ALIGNMENT INSTRUCTIONS (cont)

VHF RF AND MIXER ALIGNMENT FOR TUNERS #25A1144 and #25A1146

Connect the negative lead of a 3 volt bias supply to AGC terminal (terminal "D" on tuner #25A1146 or terminal "A" on tuner #25A1144) on tuner terminal strip. Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	207MC (10MC Swp)	205. 25MC 209. 75MC	12	Vert. amp. thru 10K to point Ⓒ. Low side to chassis.	A26, A27, A28	Adjust for response curve similar to Fig. 5 with markers above 90%.
10.	"	"	213MC (10MC Swp)	211. 25MC 215. 75MC	13	"		Check for response similar to Fig. 5. If markers fall below 70% on any channel, make compromise adjustments of A26, A27 and A28 with channel switch set to that channel. Check all other channels to see that they have not been seriously affected.
			201MC (10MC Swp)	199. 25MC 203. 75MC	11			
			195MC (10MC Swp)	193. 25MC 197. 75MC	10			
			189MC (10MC Swp)	187. 25MC 191. 75MC	9			
			183MC (10MC Swp)	181. 25MC 185. 75MC	8			
			177MC (10MC Swp)	175. 25MC 179. 75MC	7			
			85MC (10MC Swp)	83. 25MC 87. 75MC	6			
			79MC (10MC Swp)	77. 25MC 81. 75MC	5			
			69MC (10MC Swp)	67. 25MC 71. 75MC	4			
			63MC (10MC Swp)	61. 25MC 65. 75MC	3			
			57MC (10MC Swp)	55. 25MC 59. 75MC	2			

UHF OSCILLATOR ALIGNMENT

Adjust UHF oscillator trimmer (A29) for best uniform tracking over UHF band. Note: This does not necessarily mean that each UHF channel will appear at indicated number on knob.

INTERFERENCE TRAP ADJUSTMENT

Antenna trap (A30) should be adjusted for MINIMUM interference in the picture while receiver is tuned to channel where interference occurs.

VHF RF AND MIXER ALIGNMENT FOR TUNER #25A1147

Connect the negative lead of a 2. 5 volt bias supply through 10K to the AGC terminal of tuner. Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
11.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	195MC (10MC Swp)	193. 25MC 197. 75MC	10	Vert. amp. thru 10K to point Ⓓ. Low side to chassis.	A31, A32	Adjust for maximum response similar to Fig. 5.
12.	"	"	"	"	"	"	A33	Adjust A33 (RF coil on channel 10 tuner strip) by expanding or compressing coil turns for maximum height between carriers. Retouch A31 and A32 for symmetrical response.
13.	"	"	"	"	"	Vert. amp. thru detector (Fig. 1) to pin 5 (plate) of 6CB6 (V4). Low side to chassis.	A34	Connect negative lead of 1. 5 volt bias supply to point Ⓑ. Positive to chassis. Adjust A34 for MINIMUM response curve amplitude. Remove bias and test equipment.

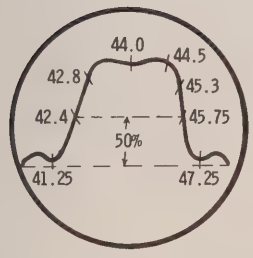


FIG. 3

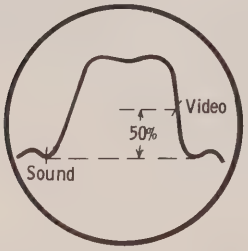


FIG. 4

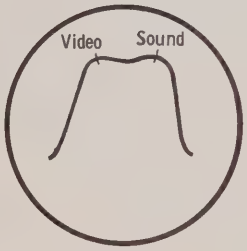


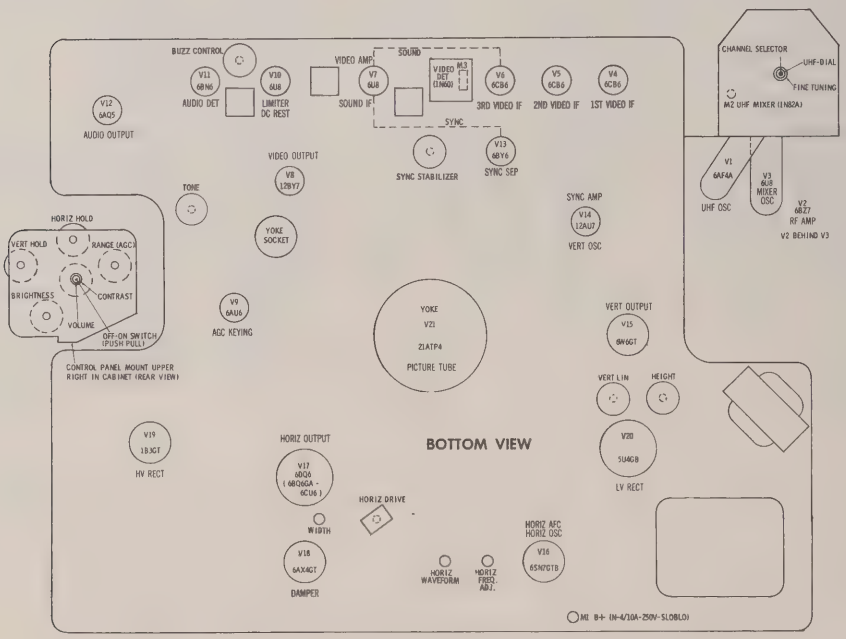
FIG. 5

CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A, TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

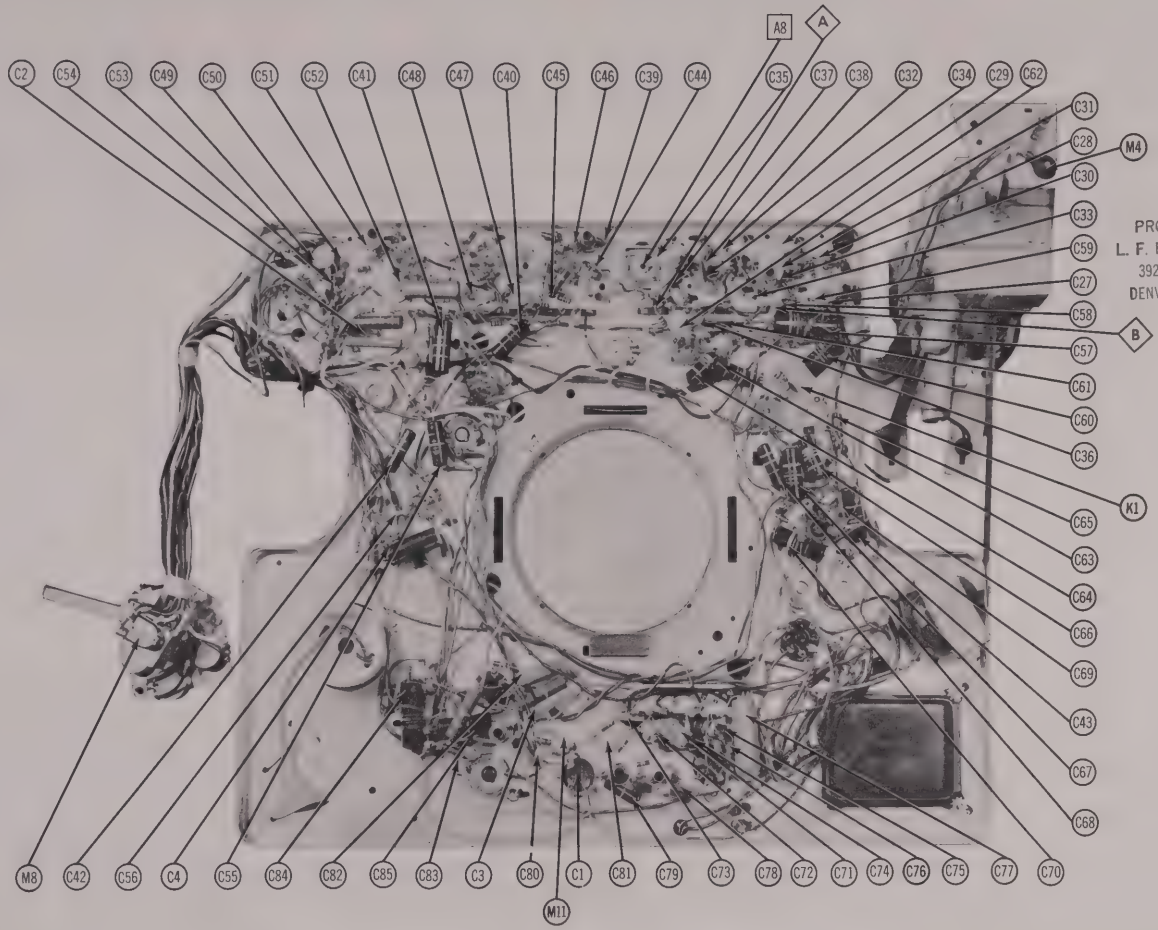
RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6AF4	† *6000Ω	10K	.1Ω	0Ω	.1Ω	10K	† *6000Ω		
V2	6BZ7	† 3000Ω	290K	INF	0Ω	.1Ω	INF	570K	0Ω	† 3000Ω
V3	6U8	† 5000Ω	200K	† 100K	.1Ω	0Ω	† 9700Ω	0Ω	0Ω	10K
V4	6CB6	27K	47Ω	0Ω	.1Ω	† 3200Ω	† 3200Ω	0Ω		
V5	6CB6	22K	47Ω	0Ω	.1Ω	† 3200Ω	† 3200Ω	0Ω		
V6	6CB6	.1Ω	180Ω	0Ω	.1Ω	† 2700Ω	† 2700Ω	0Ω		
V7	6U8	† 8800Ω	2Ω	† 35K	0Ω	.1Ω	† 35K	560Ω	1.5Ω	3900Ω
V8	12BY7	● 85Ω	1Meg	0Ω	0Ω	0Ω	.1Ω	† 3600Ω	† 1700Ω	0Ω
V9	6AU6	† 35K	† 1700Ω	0Ω	.1Ω	140K	† 40Ω	† 1700Ω		
V10	6U8	0Ω	100K	† 150K	.1Ω	0Ω	† 82K	0Ω	1Meg	0Ω
V11	6BN6	● 2Ω	3.2Ω	.1Ω	0Ω	† 6500Ω	6Ω	† 330K		
V12	6AQ5	1Meg	270Ω	.1Ω	0Ω	† 1000Ω	† 510Ω	1Meg		
V13	6BY6	30K	0Ω	0Ω	.1Ω	† 820K	† 29K	2.2Meg		
V14	12AU7	● ‡ 1.3Meg	● 1.8Meg	220Ω	.1Ω	.1Ω	† 13K	47K	0Ω	0Ω
V15	6W6GT	TP	0Ω	† 450Ω	† 450Ω	2.2Meg	TP	.1Ω	● 1400Ω	
V16	6SN7GTB	410K	† 56K	0Ω	1.5Meg	● † 400Ω	410K	.1Ω	0Ω	
V17	6DQ6	TP	0Ω	NC	† 6800Ω	470K	TP	.1Ω	100Ω	TOP CAP ‡ 10Ω
V18	6AX4GT	NC	NC	650K	NC	† 40Ω	NC	.1Ω	0Ω	
V19	1B3GT		PINS	1 THRU 8	HAVE	INFINITE	RESISTANCE			TOP CAP ‡ 335Ω
V20	5U4GB	NC	90K	NC	22Ω	NC	20Ω	NC	90K	
V21	21ATP4	0Ω	1.1Meg	Pin 6 † 100K	Pin 10 ‡ 470K	Pin 11 ● 360K	Pin 12 .1Ω			

● THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
‡ MEASURED FROM PIN 3 OF V18.
† MEASURED FROM PIN 8 OF V20.
* MEASURED IN "UHF" POSITION.
TP TIE POINT
NC NO CONNECTION



TUBE PLACEMENT CHART



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE S:.
DENVER, COLORADO

CHASSIS TOP VIEW

CORONADO MODELS TV2-9426A, TV2-9427A, TV2-9428A,
TV2-9429A, TV2-9430A, TV2-9431A, TV2-9432A, TV2-9433A

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	UHF Osc.	6AF4		V11	Audio Det.	6BN8	
V2	RF Amp.	6BZ7		V12	Audio Output	6AQ5	
V3	Mixer Osc.	6U8		V13	Sync sep.	6BY6	
V4	1st Video IF Amplifier	6CB6		V14	Sync Amp - Vert. Osc.	12AU7	
V5	2nd Video IF Amplifier	6CB6		V15	Vert. Output	6W6GT	
V6	3rd Video IF Amplifier	6CB6		V16	Horiz. AFC-Horiz. Osc.	6BH6GTB	
V7	Video Amp. -Sound IF Amp.	6U8		V17	Horiz. Output	6DQ6	Note 1
V8	Video Output	12BY7		V18	Damper	6AX4GT	
V9	AGC Keyed	6AU6		V19	HV Rectifier	1B3GT	
V10	Limiter-Det Ratiomer	6AL5			LV Rectifier	5U4GB	

Note 1: Some versions may use 6CU5 or 6BQ6GA in this application.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA			NOTES
	CORONADO PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V2	21AUP4	21AUP4	21AUP4A 21AUP4B 21AUP4C 21HFP4	① Aluminized ② Silver Screen "SS"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT	CORONADO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	.05	500	45X433	AF24-07	-D0050 -BBR30-50	-FP-355 -TC-36	-TMT-35 -TD-10-30	-Q-510 -MT-0510	X330S*
B	.20	50							
C	.20	50							
C2A	.05	300	45X429	AF33-29-30	-BC054 -BR405	-FP221.5 -TC-60	-T-180 -MT-0330		X330S*
B	.05	300							
C	.40	50							
C3	4	50	45X418	PR15BV4	BBR-4-50	TC30	TD-4-50	MMT-0505	TVA-1303
C4	4	50	45X418	PR15BV4	BBR-4-50	TC30	TD-4-50	MMT-0505	TVA-1303

* Non catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	CORONADO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C5	30		13M30QP500KMC							
C6	1500		13LEA15X2	BPD-0015	DD-153	BYA15D15	ED-0015	DCS315	5HK-D15	
C7	3									
C8	200									
C9	1000		13M330A103X-01	EF-001	MPT-1000				503C-D1	
C10	1000		13M330A103X-01	EF-001	MPT-1000				503C-D1	
C11	3		13LC303B	MP6-033	TCE-3R3	C10V3C	TCO-3	ET-353		
C12	3-12		31B001							
C13	1500		13LEA15X2	BPD-0015		BYA15D15	ED-0015	DCS315	5HK-D15	
C14	1000		13M330S2X	EF-001	MPT-1000				503C-D1	
C15	3-3		31B003		53B-3		31B-D	CT65BA		
C16	47		13LB047BK							
C17	47		13M470V470K-R							
C18	3-3		31B003		53B-3		31B-D	CT65BA		
C19	1500		13LEA15X2	BPD-0015	DD-153	BYA15D15	ED-0015	DCS315	5HK-D15	
C20	1		13LB105C							
C21	100		13L0100P							
C22	1500		13LEA15X2	BPD-0015	DD-153	BYA15D15	ED-0015	DCS315	5HK-D15	
C23	1000		13M330S2X	EF-001	MPT-1000				503C-D1	
C24	1000		13M330S2X	EF-001	MPT-1000				503C-D1	
C25	1000		13M330S2X	EF-001	MPT-1000				503C-D1	
C26	1500		13LEA15X2	BPD-0015	DD-153	BYA15D15	ED-0015	DCS315	5HK-D15	
C27	47			DM-47	DM-470	LTG47	GP-47	UC-5447	5GA-Q47	
C28	47			DM-47	DM-470	LTG47	GP-47	UC-5447	5GA-Q47	
C29	680			BPD-00068	DD-681	BYA10T68	ED-680	UC-5368	5GA-T68	
C30	500			BPD-006	DD-501	BYA82D	ED-1006	DC531	5HK-D6	
C31	58			MP6-0158	TCE-58	C10Q58C	TCO-58			
C32	680			BPD-00068	DD-681	BYA10T68	ED-680	UC-5368	5GA-T68	
C33	1300			BPD-001	DD-102	BYA65X	ED-1000	DC531	5HK-D5	
C34	51			MP6-0168	TCE-68	C10Q68C	TCO-68			
C35	680		60X15	BPD-681	DD-681	BYA10T68	ED-680	UC-5368	5GA-T68	
C36	1000			BPD-001	DD-102	BYA65D	ED-1000	DC531	5HK-D5	
C37	1000			BPD-001	DD-102	BYA82D	ED-1000	DC531	5HK-D5	
C38	470		60Z4	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C39	100			DD-101	DE-301	LTG1	GP-100	UC-531	5GA-T1	
C40	.047	400	RCP10M4473M	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C41	.047	400		P48M-41	DF-104	CUB4P1		GEM-401	4TM-P1	
C42	.015	400	RCP10M1553M	BPD-015	DD-153	CUB3S15	ED-015	GEM-4153	4TM-S15	
C43	.047	600	RCP10M6473M	BPD-08	DF-503	CUB4S47		GEM-6147	6TM-S47	
C44	11.5			NPN-41.5	TCE-125	C10V15C	TCO-1.5	STCB-V15	STCB-V15	
C45	1000			BPD-001	DD-102	BY A6D1	ED-1000	DC531	5HK-D1	
C46	5000			BPD-005	DD-502	BYA10D5	ED-005	DC535	5HK-D5	
C47	130			DH-100	DE-301	LTF1	GP-100	UC-531	5GA-T1	
C48	1000		60X3	BPD-1001	DD-102	BYC6DD1	ED-1000 ED-1000L	DC531	5HK-D1	
B	1000						ED-1000L			
C48A	5000			BPD-005	DD-502	BY A10D5	ED-005	DC525	5HK-D5	
C50	470		60Z4	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C51	5			BPD-00005	DD-150	L10Q	ED-15	UC-5415	5GA-Q5	
C51A	1000		60X3	BPD-1001	DDE-103	BYC6DD1	ED-1000 ED-1000L	DC531	5HK-D1	
B	1000						ED-1000L			
C53	.0047	400	RCP10M4473M	BPD-0047	DD-472	CUB4D47	ED-0047	GEM-4147	4TM-D47	
C54	.022	600	RCP10M6223M	BPD-03	DF-303	CUB6S23	ED-03	GEM-6123	6TM-S23	
C55	.47	200	RCP10M474M	P58M-47		CUB2P47		GEM-2047	2TM-P47	Note 1
C56	1000		47X753	BYD-11-1000		BYA10DM		10MED-20	10MED-20	
C57	.47	200	RCP10M474M	P58M-47		CUB2P47		GEM-2047	2TM-P47	
C58	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC531	5HK-D1	
C59	1000			BPD-001	DD-103	BYA6D1	ED-1000	DC531	5HK-D1	
C60	.47	200	RCP10M474M	P58M-47		CUB2P47		GEM-2047	2TM-P47	
C61	36		47X370	3469-00033		SRHT33		MB-333	MB-333	
C62	3000			BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C63	.047	400	RCP10M4473M	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C64	.047	400	RCP10M4473M	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C65	.01	400		BPD-01	DD-103	CUB4S1	ED-01	GEM-401	4TM-S1	
C66	.047	400	RCP10M4473M	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C67	.1	400		P48M-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C68	.022	600	RCP10M6223M	BPD-03	DF-303	CUB6S23	ED-03	GEM-6123	6TM-S23	
C69	.047	200	RCP10M473M	BPD-05	DF-503	CUB2S47		GEM-2147	2TM-S47	

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	CORONADO PART No.	AEROVOX PART No.	CENTRALAB PART No.	REPLACEMENT DATA CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C70	.047	800	RCP10M8473M	BPD-08	DF-503	CUB8S47		GEM-8147	6TM-S47	
C71	18		RCM20B180K	1469-00018		22B5Q18		MS-418	MS-418	
C72	82		RCM20B820K	1469-00082		22B5Q82			MS-482	
C73	100			1469-0001		22B5T1		MC325	MS-31	
C74	.047	400	RCP10M4473M	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C75	.047	200	RCP10M2473M	BPD-05	DF-503	CUB2S47		GEM-2147	2TM-S47	
C76	.023	300	RCP10M3223M	BPD-03	DF-303	CUB3S23	ED-03	GEM-3123	2TM-S23	
C77	.47	200	RCP10M2474M	P58M-47		CUB2P47		GEM-2047	2TM-P47	
C78	220			1469-00022		22B5T22			MS-322	
C79	.01	400		BPD-01		CUB4S1		GEM-401	4TM-S1	
C80	680			BPD-00068	DD-681	BYA10T68	ED-680	UC-5368	5GA-T68	
C81	820		RCM20B821K	1464-00082		19S702			MS-382	
C82	.047	400	RCP10M4473M	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C83	39	5000	47X754			HVA20G39				
C84	.1	600		P68M-1		DF-104	CUB6P1	GEM-601	6TM-P1	
C85	15	300	RCP10M3154M	P38M-15			CUB3P15	GEM-3015	3TM-P15	
C86	.1	200		P28M-1		DF-104	CUB2P1	GEM-201	2TM-P1	
C87	1.5	600		P68M-23			CUB6P23	GEM-4023	4TM-P23	Note 1

Note 1: Not used in some versions.

CONTROLS

ITEM No.	RATING RESIST.	RATING WATTS	CORONADO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1000Ω	½	78X37					Contrast
B	1MEG	½						Volume - Tap@ 250K
R2A	500K	½	40X48	AB-59	A47-500K-G	Q11-133	U50	Brightness
B	Shaft			AK-8	RS-3/16	HQ	DS-37	
R3A	1.5Meg	½	40X45	AB-743	A47-1.5Meg-G	Q11-135	U255	Vert. Hold
B	Shaft			AK-8	RS-3/16	HQ	DS-37	
R4A	50K	½	40X64	AB-51	A47-50K-G	Q11-123	U35	Horiz. Hold
B	Shaft			AK-8	RS-3/16	HQ	DS-37	
R5A	1.5Meg	½	40X48	AB-743	A47-1.5Meg-G	Q11-135	U255	Hlange
B	Shaft			AK-8	RS-3/16	HQ	DS-37	
R6A	1500Ω	½	40Z40	AB-6	A47-1500-G	Q11-109	PTA15Z1	Vert. Lin.
B	Shaft			AK-4	FKS-1/4	HQ	Not Req.	
R7A	2.5Meg	½	40X405	AB-89	A47-2.5Meg-G	Q11-139	TA255L	Height
B	Shaft			AK-4	FKS-1/4	HQ	Not Req.	
R8A	2.5Meg	½	40X405	AB-89	A47-2.5Meg-G	Q11-139	TA255L	Sync Stab.
B	Shaft			AK-4	FKS-1/4	HQ	Not Req.	
R9A	100K	½	40X407	AB-40	A47-100K-G	Q11-138	TA10L	Tone
B	Shaft			AK-4	FKS-1/4	HQ	Not Req.	
R10	500Ω	3	40X397		BB-500		FL-500	Buzz (Wire-wound)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA CORONADO PART No.	REPLACEMENT DATA IRC PART No.	NOTES
R11	100Ω		12TAR100K	BTS-100	
R12	10K		12TAR103K	BTS-10K	
R13	1000Ω		31B-583	BTS-1000	
R14	47K		12TAR473M	BTS-47K	
R15	33K		12TAR333K	BTS-33K	
R16	820K		12TAR824K	BTS-820K	
R17	470K		12TAR474K	BTS-470K	
R18	1500Ω	1	12SAS152K	BTA-1500	
R19	680Ω		12TAR682K	BTS-680Ω	
R20	100K		12TAR104K	BTS-100K	
R21	100K		12TAR104K	BTS-100K	
R22	100K		12TAR104K	BTS-100K	
R23	10K		12TAR103M	BTS-10K	
R24	27K		12TAR273K	BTS-27K	
R25	3300Ω	1	12SAS332K	BTA-3300	
R26	100K		12TAR104K	BTS-100K	
R27	8200Ω	3		BTS-8200	
R28	1500Ω	3		BTS-1500	
R29	470Ω				
R30	1000Ω		31B-583	BTS-1000	
R31	470 5%			BTS-47 5%	
R32	1000Ω		31B-583	BTS-1000	
R33	470 5%			BTS-47 5%	
R34	22Ω			BTS-22R	
R35	47Ω			BTS-47R	
R36	1000Ω			BTS-1000	
R37	180Ω			BTS-180	
R40	470Ω			BTS-470	
R41	47Ω				
R42	3900Ω 5%			BTS-47 5%	
R43	560Ω	1	BTA-5600		
R44	1Meg				
R45	3300Ω 5%	4	43X331		
R46	68Ω			BTS-68	
R47	100K			BTS-100K	
R48	1Meg			BTS-1Meg	
R49	680Ω			BTS-680	
R50	820Ω			BTS-820	
R51	22K			BTS-22K	
R52	100K			BTS-100K	
R53	1.5Meg			BTS-1.5Meg	
R54	33K			BTS-33K	
R55	47K			BTS-47K	
R56	68K			BTS-68K	
R57	22K			BTS-22K	
R58	100K			BTS-100K	
R59	330K			BTS-330K	
R60	820K			BTS-820K	
R61	47K			BTS-47K	
R62	47K			BTS-47K	
R63	33K			BTS-33K	
R64	560Ω			BTS-560	

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA CORONADO PART No.	REPLACEMENT DATA IRC PART No.	NOTES
R65	100K			BTS-100K	
R66	68K			BTS-68K	
R67	82K			BTS-82K	
R68	680Ω			BTS-680	
R69	330K			BTS-330K	
R70	4700Ω			BTS-4700	
R71	120K			BTS-120K	
R72	470Ω	1		BTA-270	
R73	270Ω	1		BTA-270	
R74	10K			BTS-10K	
R75	100K			BTS-100K	
R76	2.2Meg			BTS-2.2Meg	
R77	270K			BTS-270K	
R78	820K			BTS-820K	
R79	27K	1		BTA-27K	
R80	47K			BTS-47K	
R81	4700Ω			BTS-4700	
R83	6800Ω			BTS-6800	
R83	1.5Meg			BTS-1.5Meg	
R84	180K			BTS-180K	
R85	2.2Meg			BTS-2.2Meg	
R86	470K			BTS-470K	
R87	470K			BTS-470K	
R88	22K			BTS-22K	
R89	2.2Meg			BTS-2.2Meg	
R90	12K 5%			BTS-12K 5%	
R91	100Ω			BTS-100	
R92	820Ω	1		BTA-680	
R93	100K			BTS-100K	
R94	3300Ω			BTS-3300	
R95	560Ω				
R96	560Ω				
R97	220K				
R98	220K				
R99	680Ω				
R100	120K				
R101	82K				
R102	330K				
R103	3900Ω				
R104	82K				
R105	22K				
R106	10K				
R107	1Meg				
R108	56K				
R109	68Ω			BTS-68	
R110	470K			BTS-470K	
R111	68Ω			BTS-68	
R112	6800Ω	3		BTS-6800	
R113	100Ω	3		BTS-100	
R114	4700Ω			BTS-4700	
R115	1700Ω	10	43X394	1.5/4A-1750	
R116	100K	2		BTS-100K	
R117	270K			BTS-270K	

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	CORONADO PART No.	REPLACEMENT DATA Hallicrafters PART No.	REPLACEMENT DATA Merit PART No.	REPLACEMENT DATA Stancor PART No.	REPLACEMENT DATA Thordarson PART No.	REPLACEMENT DATA Triad PART No.
T1	117VAC @ 2.1-74A	525VCT @ 270A	5V @ 3A	6.3V @ 6.5A	53X394-A		P-8350 ① ②	P-8352 ①	25R68 ① ③	R-61BC ① ④

① Parallel & phase 6.3V, 6A filament windings.
② Tape 6.3V, 1.25A filament winding.
③ Parallel & phase 5.3V filament windings.
④ Tape 6.3V, 1.2A filament winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC	CORONADO PART No.	REPLACEMENT DATA Hallicrafters PART No.	REPLACEMENT DATA Merit PART No.	REPLACEMENT DATA Stancor PART No.	REPLACEMENT DATA Thordarson PART No.	REPLACEMENT DATA Triad PART No.	NOTES
T7	8300Ω	6-8Ω	51X181	21000 ①	A-2900 ①	A-5856 ①	24S80 ①	S-51X ① ②	① Tape center tap on primary winding.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA CORONADO PART No.	Hallicrafters PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Vert. Osc. Trans.	54X10	B6702	A-3003	209T1 ①	V405	A-8125	25A03	A-97X
T3	Horiz. Output Trans.	53X356	HVO-36 ②	23571 ②	209R1 ①	X094 ②	A-8253 * ②	FLY-15 ②	D-50 ②
			RFB00*1 ②	MVC-1*1 ②	212R1*1 ②	20UR1*1 ②		WC-15*1 ②	WC-12*1 ②
T4	Vert. Output Trans.	51X175A	Z1900 ③ ④	A-2823 ③ ④		V302 1 ③ ④	A-8148 ③	26R72 ③ ④	A-106X ③ ④
		51X175 ②	Z1900 ③ ④	A-2823 ③ ④		V302 1 ③	A-8149 ③	26R72 ③ ④	A-108X ③ ④
T5A	Yoke(90°)Horiz(30MH)	9A2388-1P ⑤	DF607 ⑤	MDP-92 ⑤	235D1 ⑤	Y90P19/43 ⑤	DY-18A ⑤	Y-16 ⑤	Y-41-1 ⑤
B	Vert(15MH)	9A2388 ⑤				20JR8 ⑤			
T6	Width Coil (1-9MH)	9A2391	RFB02 ⑤	MWC-6 ⑤	21JR1 ⑤	20JR16 ⑤	WC-8 ⑤	WC-23 ⑤	WC-12 ⑤

① Drill new mounting hole(s).
② Alternate part number.
③ Use 8 to 1 turns.
④ Connect as auto transformer.
⑤ Cut and tape green lead.
⑥ Includes resistor R95 and R96.
⑦ Use original vert. sweep and centering device.
⑧ Use original horiz. yoke damping network.
⑨ Uses vert. sweep and centering device.
⑩ Do not use lug.
⑪ Connect to coded red and blue terms.
⑫ This part may be superseded by Parts Manufacturer's introduction of special unit for this application.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

ORIGINAL TERMINAL (CONNECTIONS)	Hallicrafters Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Ram Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
8	9	9	9	9	8	9	9
4	7	7	7	7	1	7	7
3	7	7	7	7	1	7	7
2	4 Note ⑫	4 Note ⑫	4 Note ⑫	4 Note ⑫	4 Note ⑫	4 Note ⑫	4 Note ⑫
1	3	3	3	3	4	3	3
5	1	1	1	1	3	1	1
Connect Width Coil Across	1 & 5	Term #1 & #3 of RF600 Across 3 & 1	MWC-1 Across 3 & 1	212R1 Across 3 & 1	20JR16 Across 3 & 1	6 & 7	WC-18 Across 3 & 1	Red & Blue Terms of WC-12 Across 3 & 1
Special Notes	⑫ ⑬	⑫ ⑬	⑫ ⑬	⑫ ⑬	⑫ ⑬ ⑭	⑮	⑫ ⑬	⑫ ⑬

⑬ Connect approx. 100-150MMF @ 2KV in series with resistor R16 & connect across horiz. yoke terms #3 & #7.
⑭ Change value of resistor R81 & R83 as necessary to obtain required peak to peak pulse voltage at plate of V8, AGC keyer tube.
⑮ Ground either term #6 or term #7.

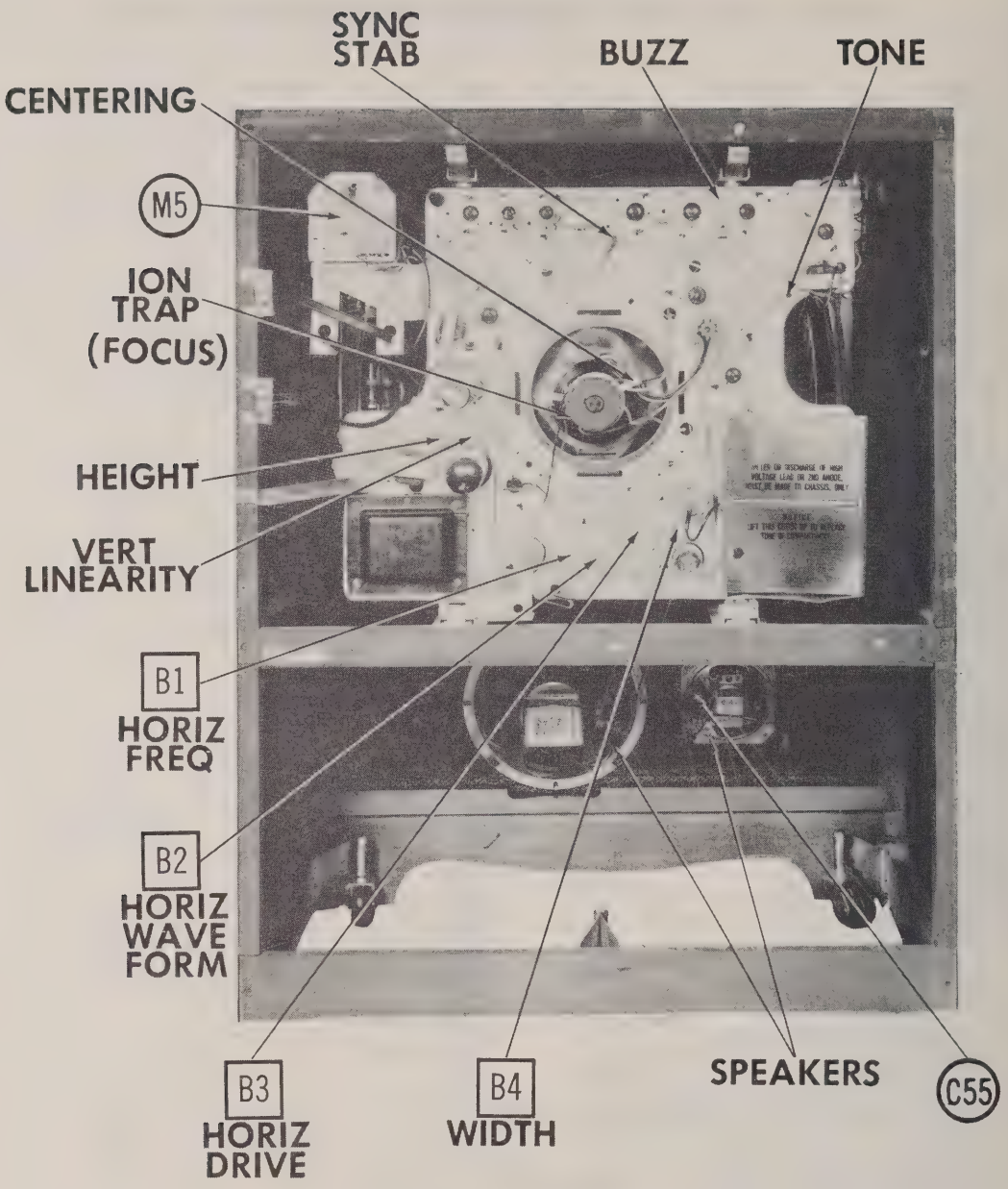
SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP	REPLACEMENT DATA CORONADO PART No.	REPLACEMENT DATA QUAM PART No.	NOTES
SP1	8"	PM	6-8Ω	12A538 ①	8A42S ①	① Used in console models.
	6"	PM	6-8Ω	12A538 ②		② Used in table models.
SP2	4"	PM	6-8Ω	12A537 ①	4A07ZS ①	③ Connect in parallel and phase.

COILS (RF-IF)

ITEM No.	USE	CORONADO PART No.	NOTES
L1	UHF RF Coupling Coil	31S-083	
L3	FIL Choke	31K-137-019	
L5	Cath. Choke	31K-137-018	
L4	RF Choke	31K-137-015	
L6	RF Choke	31K-137-014	
L8A	Ant. Coils	31M-015. 1U	Channel 1 - Includes complete 6JMC coil board assembly.
B	Ant. Coils	31M-013. 2U	Channel 2
C	Ant. Coils	31M-013. 3U	Channel 3
D	Ant. Coils	31M-013. 4U	Channel 4
E	Ant. Coils	31M-015. 5U	Channel 5
F	Ant. Coils	31M-013. 6U	Channel 6
G	Ant. Coils	31M-013. 7U	Channel 7
H	Ant. Coils	31M-013. 8U	Channel 8
I	Ant. Coils	31M-013. 9U	Channel 9
J	Ant. Coils	31M-013. 10U	Channel 10
K	Ant. Coils	31M-013. 11U	Channel 11
L	Ant. Coils	31M-013. 12U	Channel 12
M	Ant. Coils	31M-015. 13U	Channel 13
L7	Cath. Choke	31S-727	

ITEM No.	USE	CORONADO PART No.	NOTES
L8B	RF, Mixer Grid & Osc. Coils	31M-113. 2U	Channel 2
C	RF, Mixer Grid	31M-113. 3U	Channel 3
D	RF, Mixer Grid & Osc. Coils	31M-113. 4U	Channel 4
E	RF, Mixer Grid	31M-113. 5U	Channel 5
F	RF, Mixer Grid & Osc. Coils	31M-113. 6U	Channel 6
G	RF, Mixer Grid & Osc. Coils	31M-113. 7U	Channel 7
H	RF, Mixer Grid & Osc. Coils	31M-113. 8U	Channel 8
I	RF, Mixer Grid & Osc. Coils	31M-113. 9U	Channel 9
J	RF, Mixer Grid & Osc. Coils	31M-113. 10U	Channel 10
K	RF, Mixer Grid & Osc. Coils	31M-113. 11U	Channel 11
L	RF, Mixer Grid & Osc. Coils	31M-113. 12U	Channel 12
M	RF, Mixer Grid & Osc. Coils	31M-115. 13U	Channel 13



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and turn the horizontal hold control fully clockwise. Tune in a TV station and adjust the horizontal frequency slug (B1) until the picture is just about to tear out of sync at the top of the picture.

Connect the vertical amplifier of the scope to point ⟨E⟩ . Low side to chassis. With the picture in sync adjust B2 for equal peaks of the waveform as in Fig. 6. Turn the horizontal drive trimmer (B3) clockwise until white vertical lines appear in the left center of the screen and then turn counter clockwise until the white vertical lines disappear.

Adjust the width slug (B4) for a picture slightly wider than necessary to fill the picture mask horizontally.

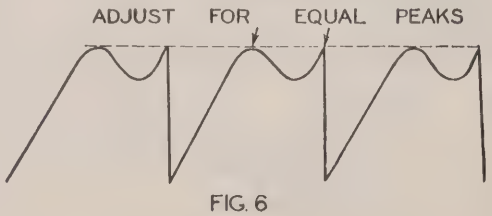
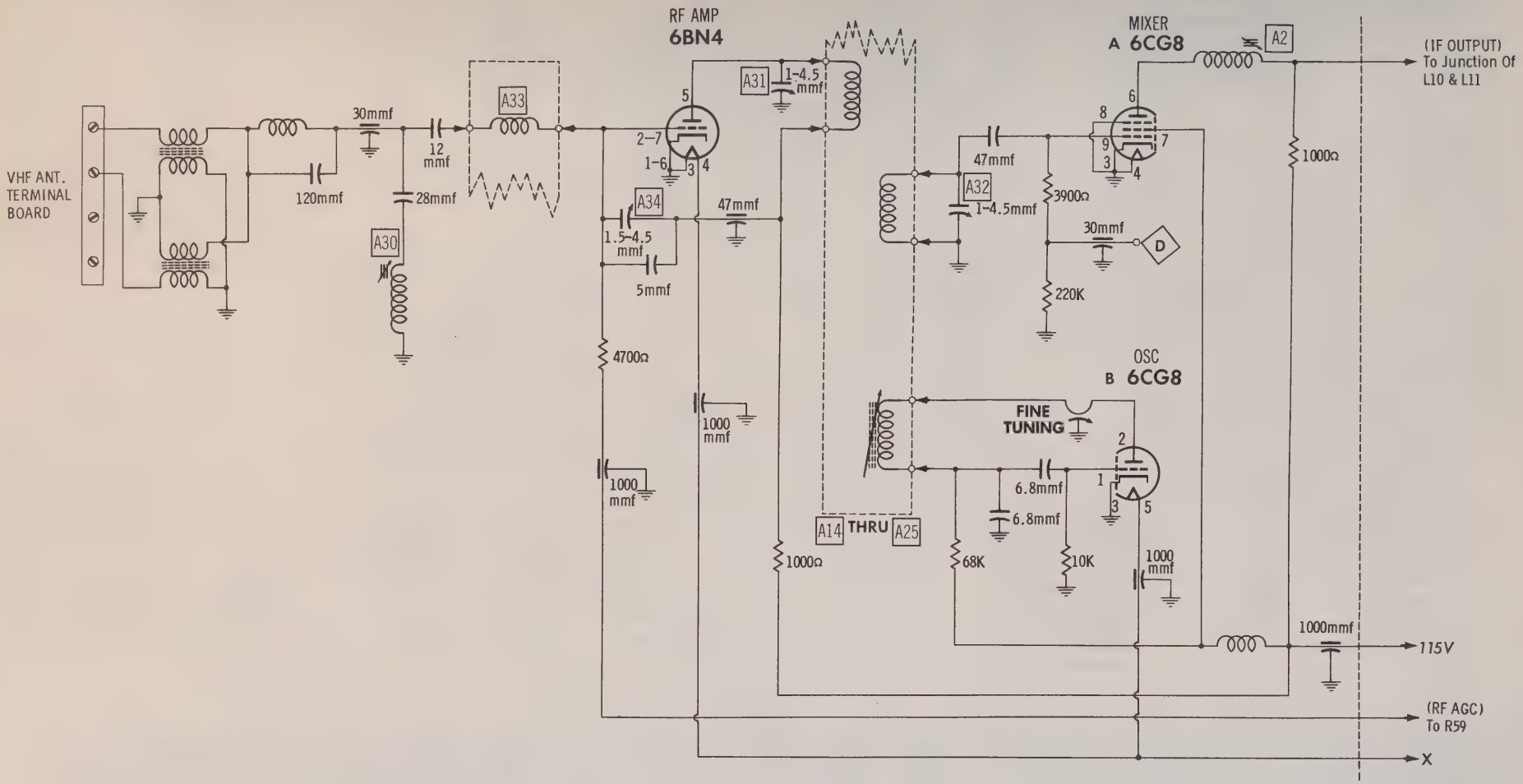


FIG. 6



VHF Tuner Part No. 25A1147.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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ALTERNATE VHF TUNER SCHEMATIC

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	CORONADO PART No.	NOTES
L8A	RF & Osc. Coils	31M-113. 1U	Channel 1 - Includes complete 41MC coil board assembly.

ITEM No.	USE	CORONADO PART No.	NOTES
L9	Converter Plate Coil	31K-264	

ITEM No.	USE	REPLACEMENT DATA				NOTES
		CORONADO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L10	39MC Trap	9A2369		TV-152	6225	
L11	1st Video IF	9A2365		TV-131	6225	
L12	2nd Video IF	9A2363			6222	Includes 47. 25MC trap.
L13	3rd Video IF	9A2364			6221	Includes 41. 25MC trap.
L14	Series Peaking Coil	9A2375	19-3036	TV-180	6176	30 Microhenries
L15	Series Peaking Coil	36A35	19-3093■	TV-181■	6177■	82 Microhenries; Wound on 3900Ω resistor.
L16	Shunt Peaking Coil	36A34	19-4400	TV-190	6134	360 Microhenries
L17	4. 5MC Trap	9A2382				
L18	Shunt Peaking Coil	36A36	19-3100	TV-181	6177	100 Microhenries
L19	Shunt Peaking Coil	36A1	19-3100▲	TV-181▲	6177▲	100 Microhenries; Wound on 270Ω resistor.
L20	Series Peaking Coil	36A12	19-4160♦	TV-184♦	6120♦	160 Microhenries; Wound on 22K resistor.
L21	Shunt Peaking Coil	36A37	19-3250▲	TV-185▲	6181▲	235 Microhenries; Wound on 8200Ω resistor.
L22	1st Sound IF	9A2383				Includes 56MMF cap.
L23	2nd Sound IF	9A2368	17-3495	TV-113	6203	Includes 22MMF cap.
L24	3rd Sound IF	9A2368	17-3495	TV-113	6203	Includes 22MMF cap.
L25	Quadrature Coil	9A2367	20-1005		1480	
L26	RF Choke	9A2380	19-1001		4604	1. 5 Microhenries

■ Parallel with 3900Ω resistor.
▲ Parallel with 270Ω resistor.
♦ Parallel with 22K resistor.
▲ Parallel with 8200Ω resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA							NOTES
	PRI.	SEC.	CORONADO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	
L27	79Ω		9A2371			6211*				Horiz. Freq. - Tap ② 55Ω
L28	58Ω		9A2372							Horiz. Waveform

* Enlarge mounting hole.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∿)	CORONADO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L29	. 270A	40Ω	. 9HY	52X95-5	C5037 ①	C-2996①	C-2326①	26C44 ①	C-23X ①

① Drill one new mounting hole.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	CORONADO PART No.	REPLACEMENT DATA	
K1	Vertical Intergrator	2000MMF, 5000MMF, 5000MMF, 22K, 8200Ω, 8200Ω	76X7	Aerovox Centralab Cornell-Dubilier Erie Sprague	PA-110 PC-100 115TM1 1405-01 V-1

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			CORONADO PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	N	. 4A 125V	16X162	16X163	333. 400 (N - . 4A)	346009	N 4/10	HN 3/10 to 1/2

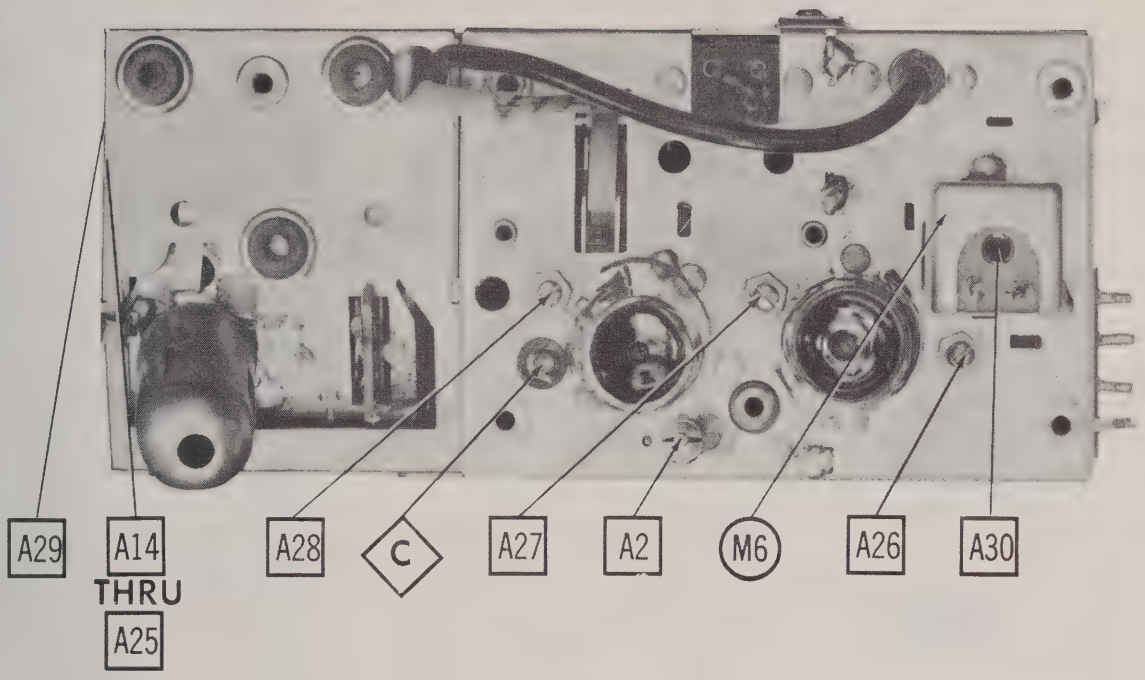
CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		CORONADO PART No.	SYLVANIA PART No.	
M2	1N82A	31K-111	1N82A	UHF Mixer (Clip In)
M3	1N60*		1N60	Video Detector (Pigtail)

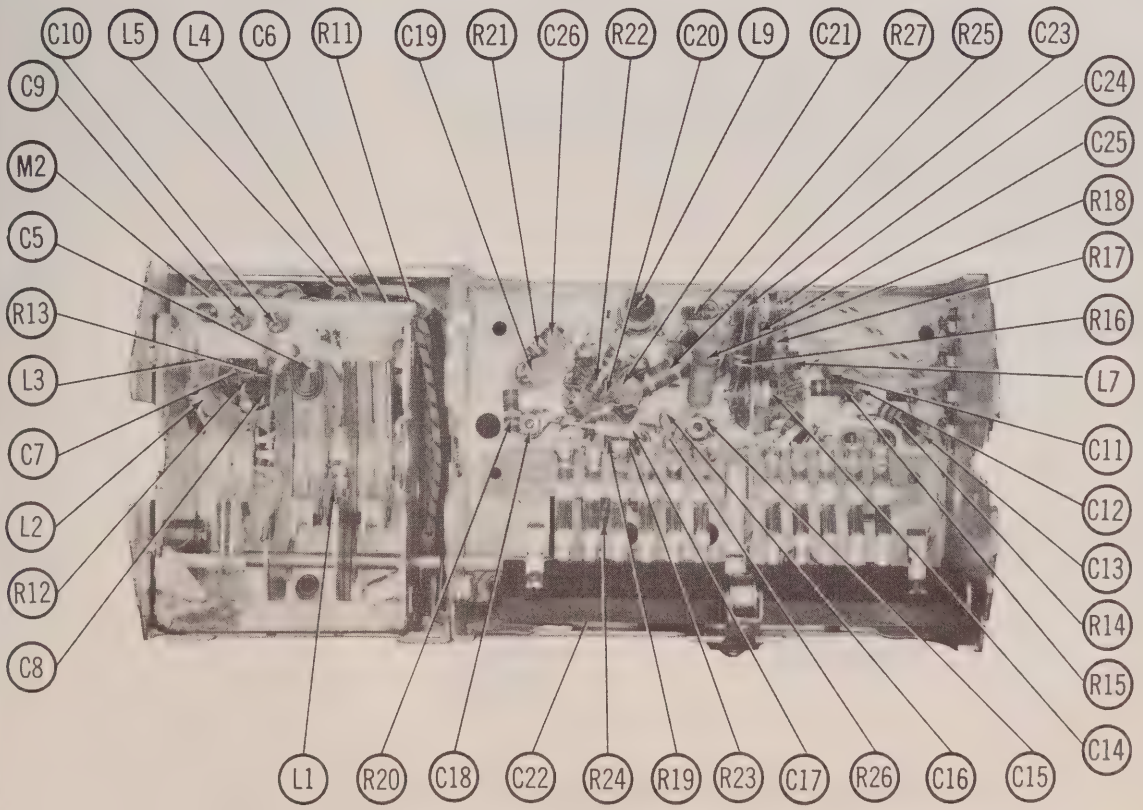
* CK706A may be used in some versions.

MISCELLANEOUS

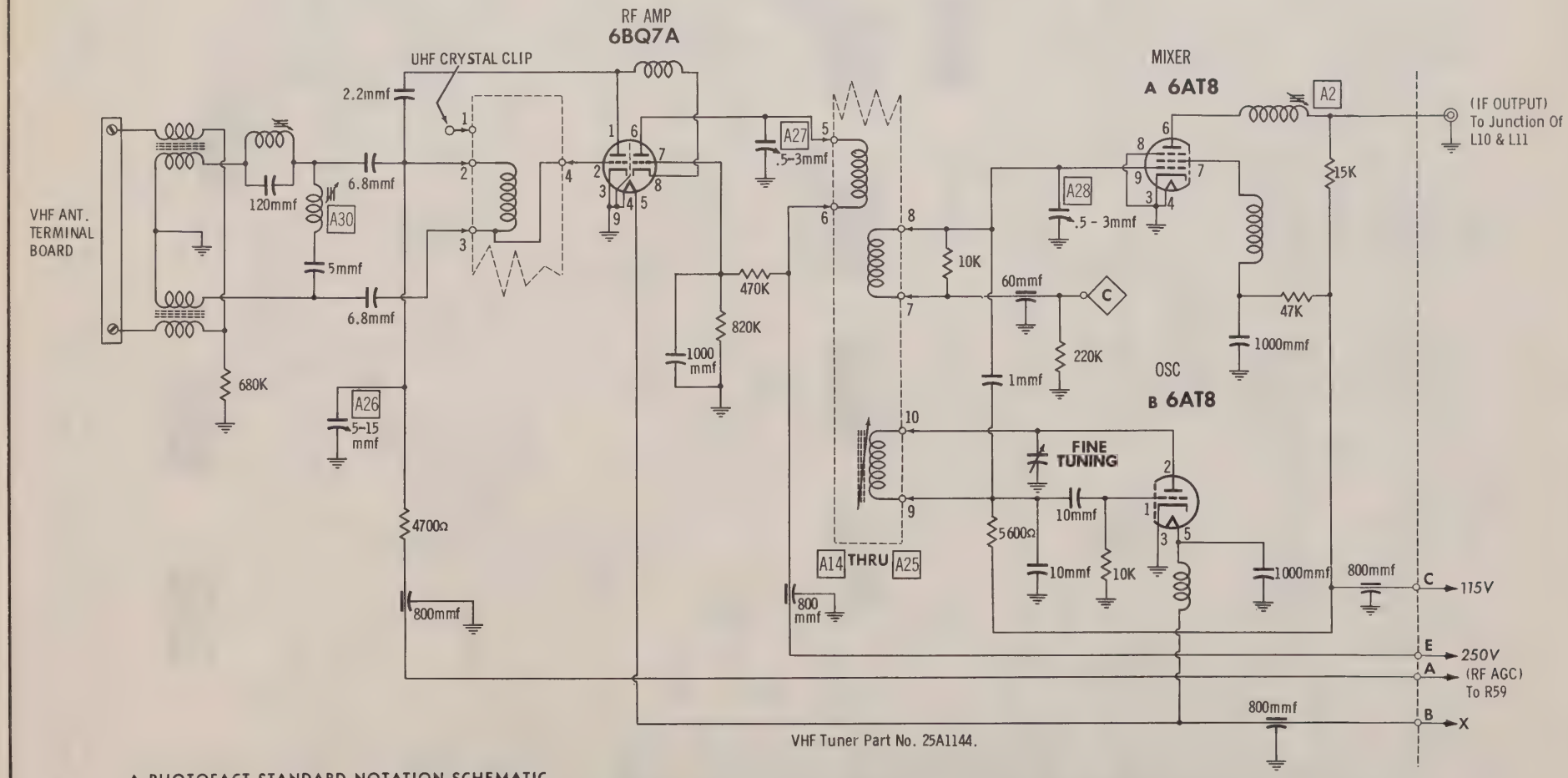
ITEM No.	PART NAME	CORONADO PART No.	NOTES
M4	Pilot Light		#15
M5	Tuner	25A1146	UHF/VHF
	Tuner	25A1147	VHF
M6	Ant. Matching Network	31K-225-03	Includes Coils and Caps.
M7	Video Det. Ass'y.	9A2370	Includes 4th Video IF, Series Peaking Coil, M4 and Caps.
M8	Switch	2A464	On-Off, Push Type.
M9	Centering Device	2A435	Includes Yoke Rear Cover.
M10	Ion Trap	2A421	
M11	Trimmer Cap.	17A271	Horiz. Drive (170-700MMF)
	Yoke Clamp	30X611	
	Safety Glass	17X193-1	Tinted, All Models.



RF TUNER-TOP VIEW



RF TUNER-BOTTOM VIEW



VHF Tuner Part No. 25A1144.

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ALTERNATE VHF TUNER SCHEMATIC

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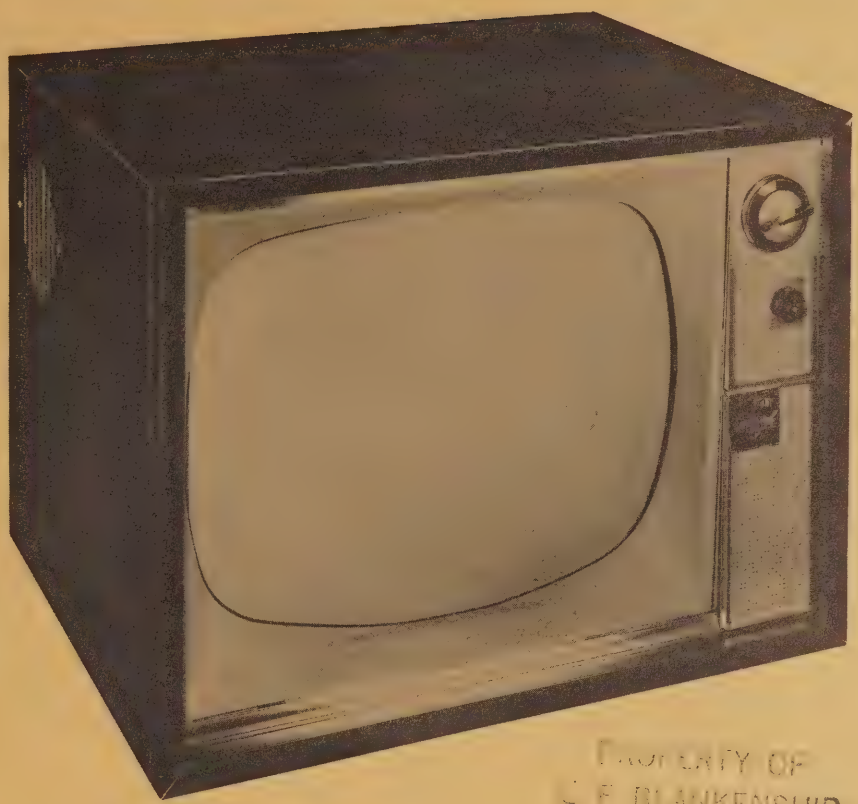

PROPERTY OF
C. F. BLANKENSHIP
3324 MEADE ST.
DENVER, COLORADO

TRADE NAME	Dumont Chassis RA-370, RA-371
MANUFACTURER	Allen B. Dumont Laboratories, Inc., 257 Sixteenth Ave., Paterson, N.J.
TYPE SET	Television Receiver
TUBES	Eighteen
POWER SUPPLY	110-120 Volts AC, 60 Cycle — RATING 200 Watts, 1.7 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

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DUMONT
CHASSIS RA370, RA371

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 8 push-on type control knobs from the front.

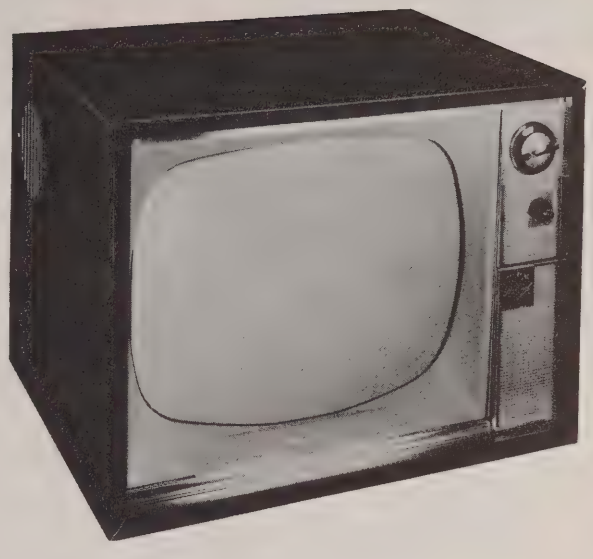
2. Remove 2 wood screws, 1 metal screw and the rear cover.

3. Remove picture tube socket, yoke plug, HV lead and 2 speaker leads.

4. Remove 6 wood screws holding the chassis braces to the side of the cabinet.

5. Remove the chassis.

6. Remove 2 speaker nuts and the speaker.



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SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustments of the VHF oscillator is possible by removing the channel selector and fine tuning knobs. Set the fine tuning at the center of its range. The adjustments are accessible, one at a time, as the channel selector is rotated. Adjust for best picture and sound.

PICTURE TUBE SAFETY GLASS CLEANING

Remove 4 wood screws and the metal trim at the bottom of the safety glass. Remove the safety glass.

FOCUS

Adjust the ion trap for the best focus consistent with maximum brightness.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Turn the horizontal hold control to the center of its range. Adjust the horizontal frequency set control (R11) until the picture synchronizes horizontally.

SOUND IF DETECTOR BUZZ ADJUSTMENT

To eliminate sound IF detector buzz, adjust the ratio detector secondary (A13) located on top of chassis.

FUSES

One fuse is used for LV power supply protection. (For location see tube placement chart).

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

DUMONT
CHASSIS RA370, RA371

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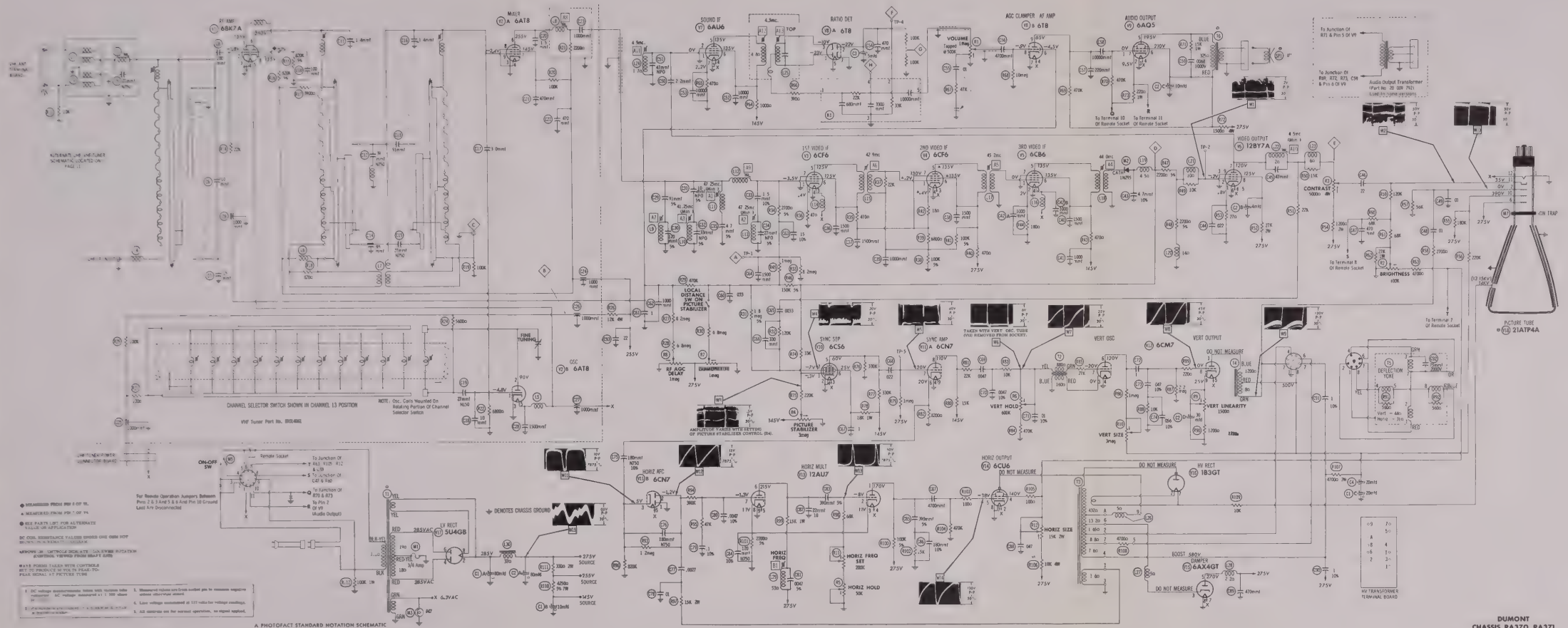
G867

DATE 7-57 SET 364 FOLDER 3


DUMONT
CHASSIS RA370, RA371
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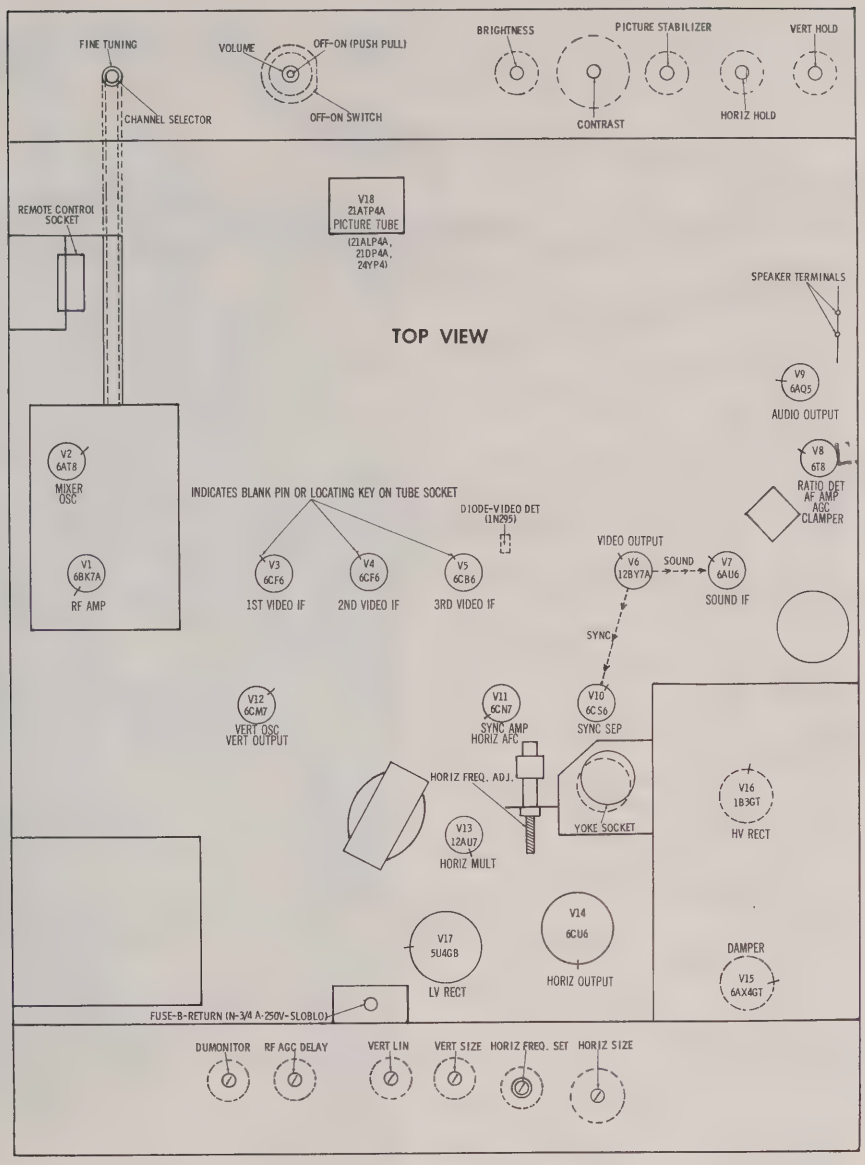
DENOTES CHASSIS GROUND
CHANNEL SELECTOR SWITCH SHOWN IN CHANNEL 13 POSITION
PICTURE TUBE 21ATP4A

TUBE PLACEMENT CHART



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TUBE FAILURE CHECK CHART

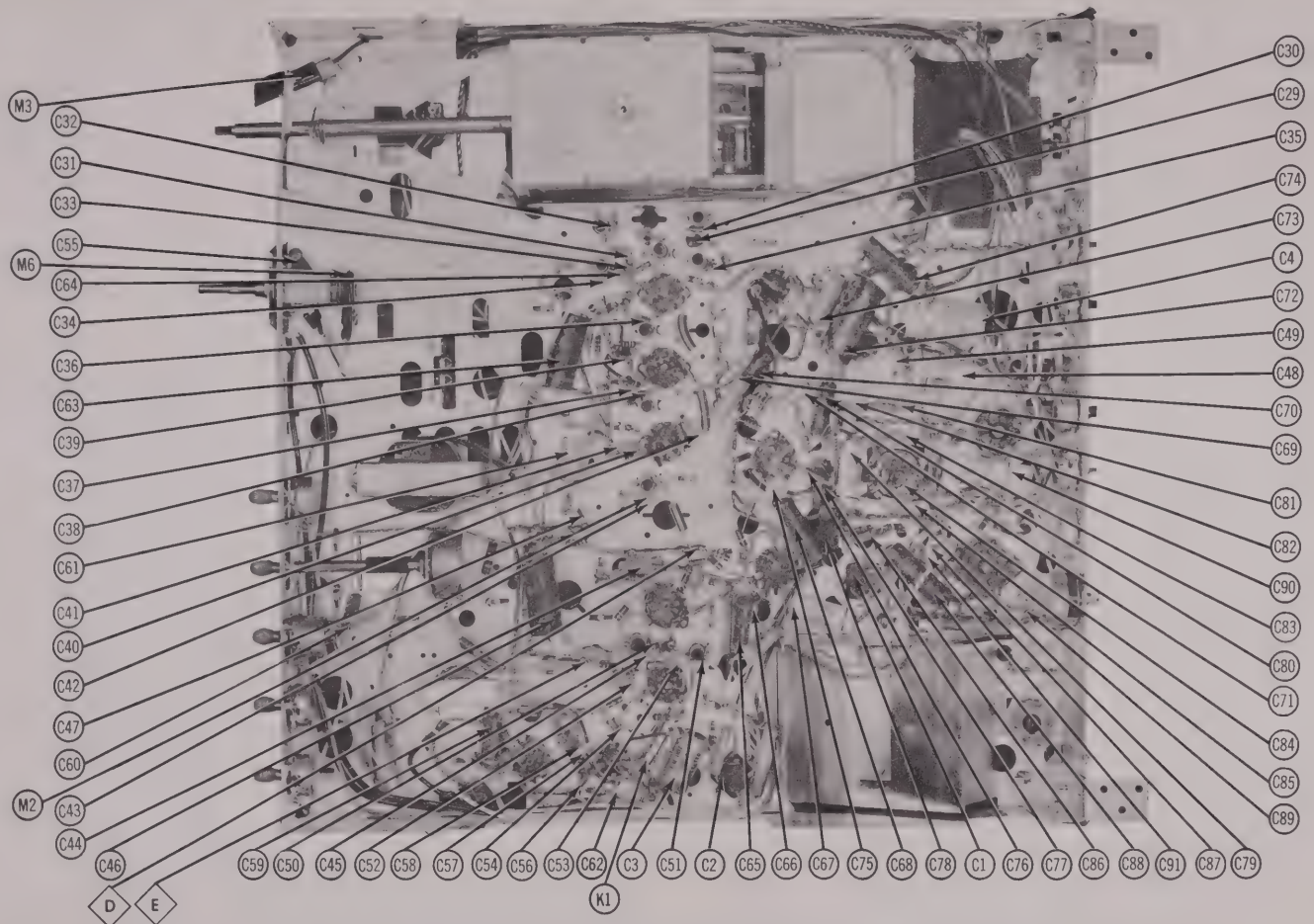
The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE
No raster, no sound - **Fuse (M1), V17**

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - **V3, V4, V5, Diode (M2), V6**
No pic, no sound, has snow - **V1, V2, V3**
No pic, has sound, has raster - **V6, V18**
Has pic, no sound - **V7, V8, V9**

SYNC FAILURE
No vert. sync - **V10, V11**
No horiz. sync - **V10, V11**
No vert. or horiz. sync - **V10, V11**

SWEEP FAILURE
No raster, has sound - **V11, V13, V14, V15, V16, V18**
No vertical deflection - **V12**
Poor vert. linearity or foldover - **V12**
Poor horiz. linearity or foldover - **V13, V14, V15**
Narrow picture - **V13, V14, V15, V17**
Vert. off freq. - **V12**
Horiz. off freq. - **V13**



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Remove the horizontal output tube (V14) and the damper tube (V15). Connect the yoke, speaker and picture tube during alignment.

VIDEO IF ALIGNMENT

Connect the negative lead of a variable bias supply to point Ⓐ. Positive to chassis. For steps 1 thru 5, adjust bias for 4.5 volts. For step 6, adjust bias for 2 volts. Connect 2200Ω resistor from point Ⓑ to chassis. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Fig. 1	High side to point Ⓒ. thru network (Fig. 1). Low side to chassis.	Not used	47.25MC	13	USE VTVM. DC probe to point Ⓓ. Common to chassis.	A1, A2	Adjust for MINIMUM deflection.
2.	"	"	"	41.25MC	"	"	A3	"
3.	"	"	"	44.0MC	"	"	A4	Adjust for maximum deflection.
4.	"	"	"	45.2MC	"	"	A5	"
5.	"	"	"	42.9MC	"	"	A6	"
6.	"	"	43.5MC (10MC Swp)	40.2MC 41.25MC 42.25MC 44.0MC 45.75MC 47.25MC	"	Vert. Amp. thru detector probe to pin 5 (plate) of 6CF6 (V3). Low side to chassis.	A7, A8, A9	Adjust A7 for 40.2MC kickback peak as shown in Fig. 2. Adjust A8 and A9 for response curve similar to Fig. 2 with markers positioned as shown. Remove the 2200Ω resistor from point Ⓑ.

4.5MC TRAP ALIGNMENT

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	.001MFD	High side to pin 2 (grid) of 12BY7 (V6). Low side to chassis.	Not used	4.5MC (400∿ AM)	13	Vert. Amp. thru detector probe to point Ⓔ. Low side to chassis.	A10	Adjust for MINIMUM 400∿ indication.

SOUND IF ALIGNMENT

Connect two matched 100K (±1%) resistors in series from point Ⓕ to chassis. The junction of these two resistors is alignment point Ⓖ as shown on the schematic. A TV station signal may be substituted for the signal generator if a generator of crystal accuracy is not available.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
8.	.001MFD	High side to pin 2 (grid) of 12BY7 (V6). Low side to chassis.	4.5MC (Unmod)	Any non-interfering channel	DC probe to point Ⓖ. Common to chassis.	A11, A12	Adjust for maximum deflection.
9.	"	"	"	"	DC probe to point Ⓗ. Common to point Ⓖ.	A13	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

OSCILLATOR ALIGNMENT

Turn the set on and allow 15 minute warm-up period. Set the fine tuning to the center of its range. Switch the channel selector to each channel needing oscillator adjustment and adjust the oscillator adjustment screw reached thru a hole in the front of the tuner to the right of the tuner shaft for best picture and sound.

RF AND MIXER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

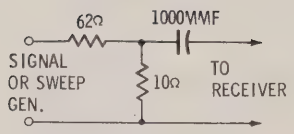


FIG.1

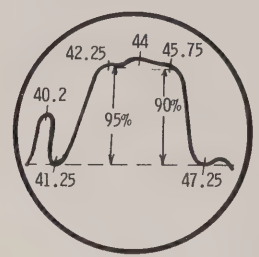
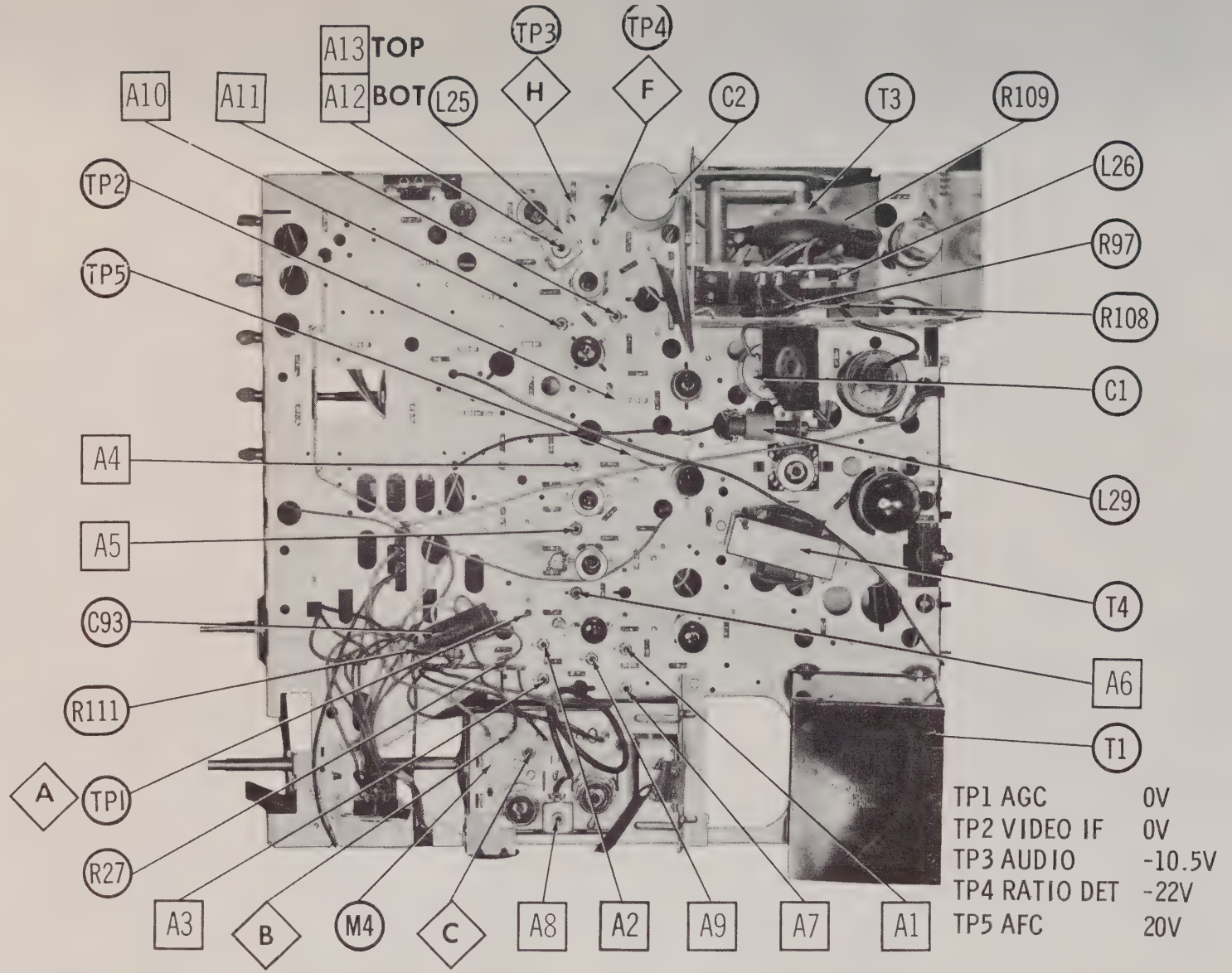
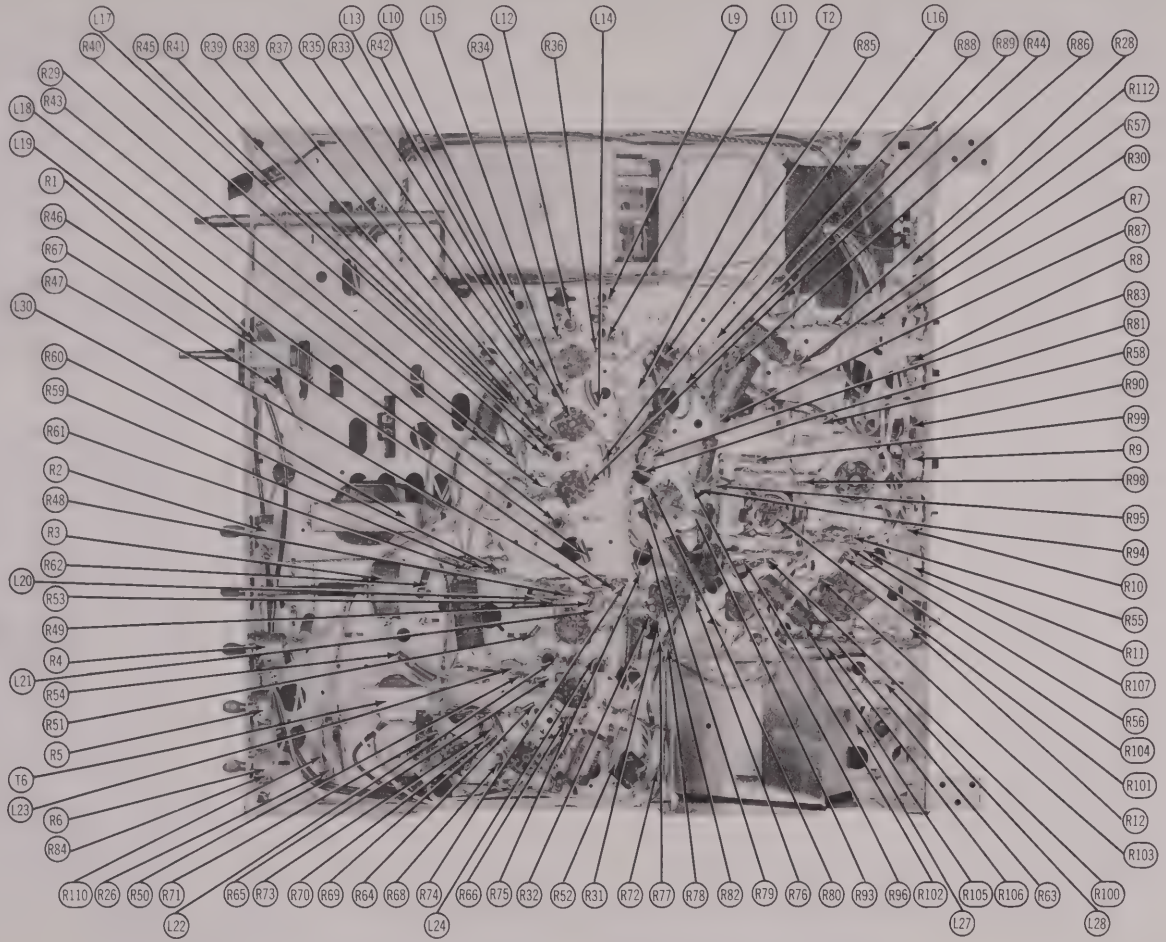


FIG. 2



CHASSIS TOP VIEW
RA370, RA371
DUMONT CHASSIS



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

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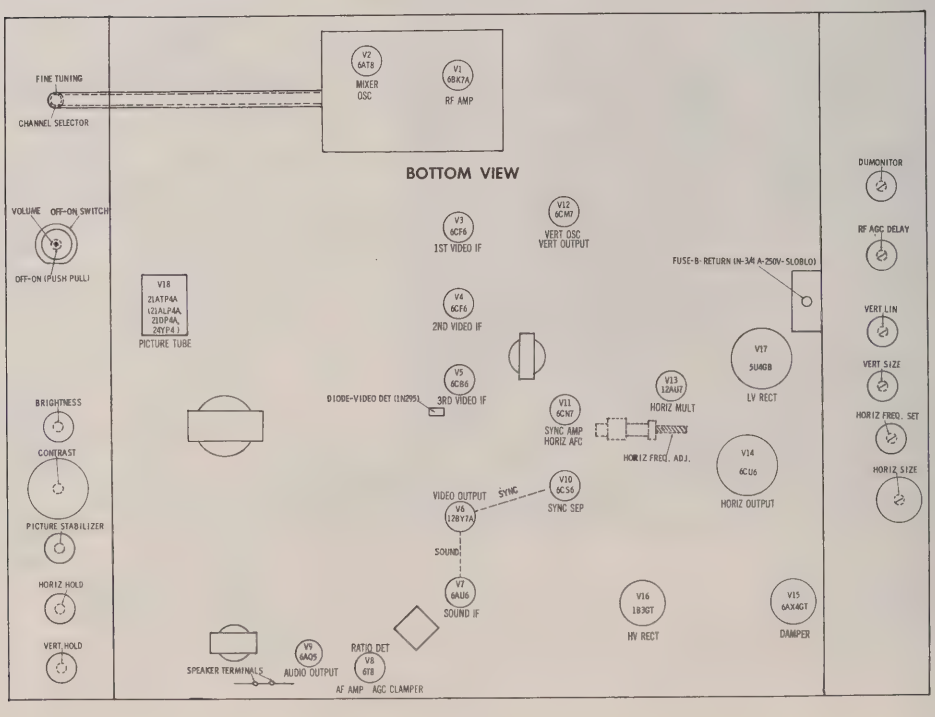
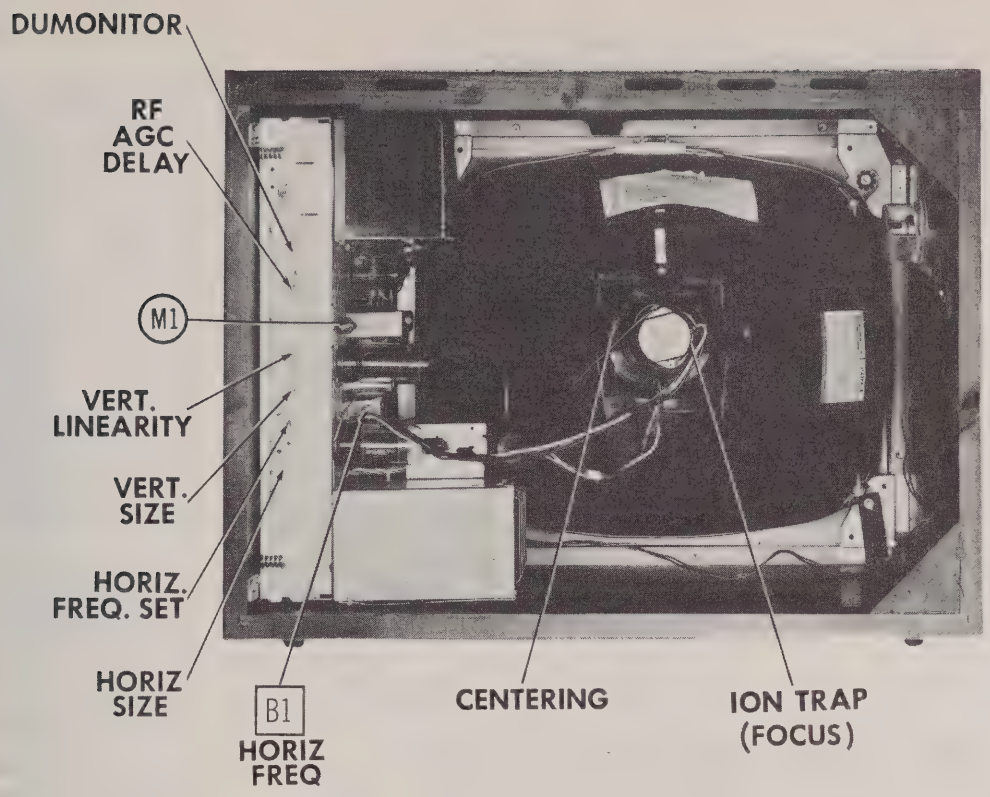
RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BK7A	INF	650K	0Ω	0Ω	.1Ω	†370Ω	390K	INF	0Ω
V2	6AT8	6800Ω	†18K	0Ω	0Ω	.1Ω	†2200Ω	†100K	0Ω	100K
V3	6CF6	1.2Meg	47Ω	.1Ω	0Ω	▲ 470Ω	▲ 470Ω	0Ω		
V4	6CF6	55K	▲ 18Ω	.1Ω	0Ω	†500Ω	†500Ω	60K		
V5	6CB6	.1Ω	180Ω	.1Ω	0Ω	†5000Ω	†5000Ω	0Ω		
V6	12BY7A	27Ω	2200Ω	0Ω	.1Ω	.1Ω	0Ω	†6200Ω	†27K	0Ω
V7	6AU6	1.7Ω	0Ω	0Ω	.1Ω	†5600Ω	†5600Ω	470Ω		
V8	6T8	INF	33K	INF	.1Ω	0Ω	650K	0Ω	10Meg	†470K
V9	6AQ5	470K	220Ω	0Ω	.1Ω	†1800Ω	†1500Ω	470K		
V10	6CS6	•27K	0Ω	.1Ω	0Ω	†170K	†22K	2Meg		
V11	6CN7	0Ω	2Meg	820K	0Ω	.1Ω	8200Ω	†1Meg	†20K	NC
V12	6CM7	‡6000Ω	TP	150Ω	0Ω	.1Ω	• ‡2.5Meg	• 680K	2.2Meg	• 1400Ω
V13	12AU7	†100K	• 100K	2200Ω	.1Ω	.1Ω	†15K	2.3Meg	2200Ω	0Ω
V14	6CU6	NC	.1Ω	TP	• †12000Ω	470K	TP	0Ω	0Ω	TOP CAP ‡23Ω
V15	6AX4GT	NC	NC	¶	NC	†40Ω	NC	.1Ω	0Ω	
V16	1B3GT		PINS	1 THRU 8	HAVE	INFINITE	RESISTANCE			TOP CAP ‡450Ω
V17	5U4GB	NC	35K	NC	18Ω	NC	19Ω	NC	35K	
V18	21ATP4A	0Ω	56K	PIN 6 †37Ω	PIN 10 ‡190K	PIN 11 • 180K	PIN 12 .1Ω			

▲ MEASURED FROM PIN 7 OF V4.
† MEASURED FROM PIN 2 OF V17.
• THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
‡ MEASURED FROM PIN 3 OF V15.
NC NO CONNECTION
TP TIE POINT
¶ THIS READING CAN VARY GREATLY, (10K MINIMUM), DUE TO THE CONDITION OF THE ELECTROLYTIC CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.



TUBE PLACEMENT CHART



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

Set the horizontal hold control and the horizontal frequency set control to the center of their range.

Adjust the horizontal frequency slug (B1) to the center of its effective synchronizing range, then momentarily switch off channel and back again. The picture should pull into sync again.

Adjust the horizontal size control (R12) for a picture slightly wider than necessary to fill the picture mask horizontally.

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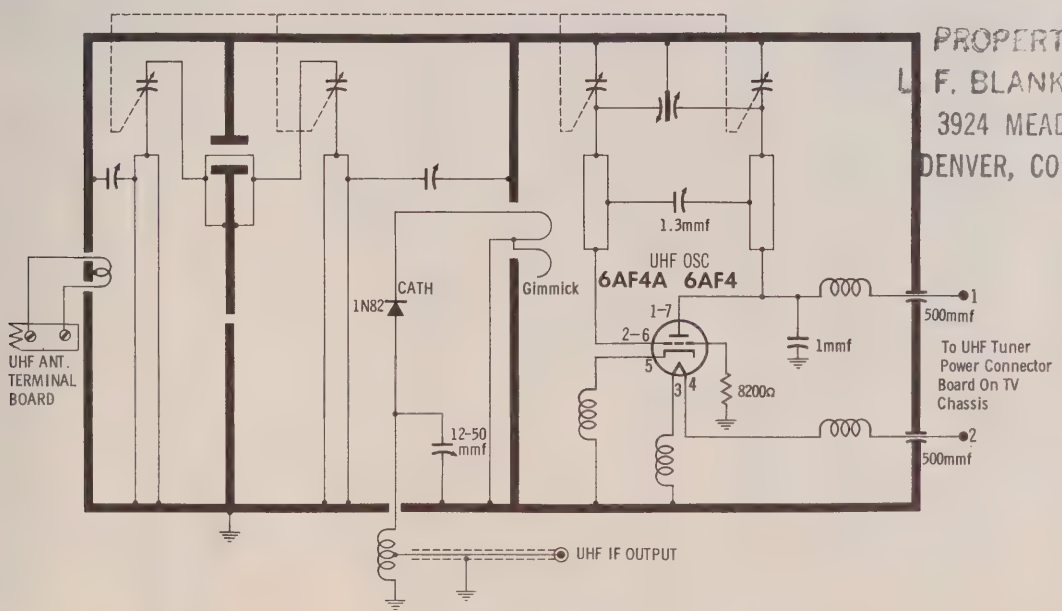
DENVER, COLORADO



UHF Tuner Part No. 89014081

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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ALTERNATE TUNER SCHEMATIC

SET 364 FOLDER 3

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No	USE	TYPE	NOTES
V1	RF Amplifier	6BA7A	
V2	Mixer-Oscillator	6AT4	
V3	1st Video IF Amp	6CB6	
V4	2nd Video IF Amp	6CB6	
V5	3rd Video IF Amp	6CB6	
V6	Video Output	2BY7A	
V7	Sound IF Amp	6AL6	
V8	Ratio Det. & AF Amp		
	Early Receiver	6T8	
	Later Receiver	6AQ8	
V9	Audio Output	6AQ8	

ITEM No	USE	TYPE	NOTES
V10	Sync Sep	6CS6	
V11	Sync Amp.-Horiz. AFC	6CB7	
V12	Vert. Osc.-Vert. Output	6CM7	
V13	Horiz. Mult.	12AU7	
V14	Horiz. Output	6CU5	
V15	Damper	6AX4GT	
V16	HV Rectifier	1B3GT	
V17	LV Rectifier	5U4GB	

PICTURE TUBE

ITEM No	REPLACEMENT DATA			NOTES
	DUMONT PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V18	D14TP4A	D14TP4A	D14TP4	1 Silver screen 85
		D14TP4A1	D14TP4A1	2 Aluminized
		D14TP4A2	D14TP4A2	
	D14DP4A	D14DP4A	D14DP4	
		D14DP4A1	D14DP4A1	
		D14DP4A2	D14DP4A2	
	D24DP4			
	24YP4	24YP4	24YP4 ①	
			24DP4A ①	
			24DP4	

ELECTROLYTIC CAPACITORS

ITEM No	RATING		DUMONT PART No.	REPLACEMENT DATA					
	CAP	VOLT		AEROVOX PART No.	CORNELL DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	40	450	32254455	AFH3-30-50	DC050	FP345	TMO-123	Q-230	TVL-4675
B	40	450			TC353	TC353			
C	20	25							
C2A	40	450	32250454	AFH4-414	DO450	FP333.9		Q-935	TVL-4819
B	4	450			BR445	TC47		MT-4504	
C	40	450							
D	20	50							
C3	5	100	32253262	SRE5D5	BBR4-150	TC40	TD-4-150	FM-1504	TVA-1402
C4	20	350	32253263	PRS450V20	BR3033	TC65	TD-20-350	FM-4535	TVA-1808

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No	RATING		DUMONT PART No.	REPLACEMENT DATA						NOTES
	CAP	VOLT		AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	27		03163500		TCM-27	C10QS7U	TCT-27			NT60
C6	10		03164315	BPD-00001	DD-100	L10QL	ED-10	UC-54	SCA-Q5	
C7	15		03162320	BPD-00015	DD-150	L15QS	ED-15	UC-54S	SCA-Q5	
C8	100		03164317	BPD-00009	DD-101	L10TS	ED-100	UC-58	SCA-T1	
C9	1000		03146042	EF-001	MFT-1000				503C-DI	
C10	1000		03164311	EF-001	MFT-1000	L10TI	ED-100	UC-531	SCA-T1	
C11	1-6		03173600		529-4		511S-E	CT56I		
C12	39		03180353	WT60-ST 39	TC7-39	C10QS9U	TCT-39			NT60
C13	51		03163580		TC7-51	L10QS1	ED-51			
C14	95		03173600							
C15	27		03163500		TCM-27	C10QS7U	TCT-27			NT60
C17	3.6						511S-E	CT56I		
C18	10		03129870	MPG-81 3.0	SI 10	D6-100	529-4	CT-563	ZT-643	
C19	27		03179000				L7QG	GP-10	UC-541	SGA-Q1	NT60
C20	1.5		03173550	NPO-SI 1.5	TCZ-1R5	CTA8V15C	TCO-1 5		ZT-5215	STCCB-V15	
C21	470		03121560	BPD-00047	DD-471	BYA0P247	ED-470		UC-5347	SGA-T47	
C22	470		03121390	BPD-00047	DD-471	BYA0T247	ED-470		UC-5347	SGA-T47	
C23	1000		03153800	BPD-001	DD-102	BYA0S2	ED-1000		DC52I	SHK-DI	
C24	1000		03146042	EF-001	MFT-1000					503C-DI	
C25	1000		03146042	EF-001	MFT-1000					503C-DI	
C26	1000		03146042	EF-001	MFT-1000					503C-DI	
C27	1000		03146042	EF-001	MFT-1000					503C-DI	
C28	1500		03153750	BPD-002	DD-152	BYA0D15	ED-0015		DC52I5	SHK-DI5	
C29	68		03175370			529-4	511S-QH	TCO-68			NP0 5%
C30	120		03175300	1469-00023	TCZ-121	529-4	511S-T	TCO-120		FTCC-T12	5%
C31	10		03175000	MPG-SI 10	TCZ-10	C10QC	TCO-10		ZT-54	FTCC-Q	NP0 5%
C32	33		03183450	MPG-SI 33	TCZ-33	C10QS3C	TCO-33		ZT-5433	FTCC-Q33	NP0 5%
C33	1.5		03183500	MPG-SI 1.5	TCZ-1R5	C10Y15C	TCO-1.5		ZT-5518	STCCB-V15	10%
C34	27		03175060		TCZ-270	C10QS7C	TCO-27				NP0 5%
C35	4.7		03138090	NPO-ST 4.7	TCZ-4R7	C10Y47C	TCO-4.7		ZT-5547	STCCB-V47	5%
C36	500		03153710	BPD-00005	DD-501	BYA0D5	ED-0005		DC52I5	SHK-DI5	
C37	1500		03153720	BPD-00015	DD-152	BYA0D15	ED-0015		DC52I5	SHK-DI5	
C38	1500		03153710	BPD-0018	DD-152	BYA0D15	ED-0015		DC52I5	SHK-DI5	
C39	1000		03153700	BPD-001	DD-102	BYA0S2	ED-1000		DC52I	SHK-DI	
C40	1500		03153710	BPD-0015	DD-152	BYA0G15	ED-0015		DC52I5	SHK-DI5	
C41	1000		03153700	BPD-001	DD-102	BYA0S2	ED-1000		DC52I	SHK-DI	
C42 A	1000		03173701	BPD-XXXX	DD3-102	BYC5D01	ED3-001		DC56I	SHK-X1	
B	1000										
C43	4.7		03128590	NPO-SI 4.7	TCZ-4R7	C10Y47C	TCO-4.7		ZT-5547	STCCB-V47	10%
C44	.022	200	03140320	BPD-02	DF-203	CUB3Z22	GD-03		GEM-3123	STM-S22	
C45	47		03185350	BPD-000047	DD-470	L10Q47	ED-47		UC-5447	SHK-D47	
C46	.33	600	03140240	P468N-33		CUB4P33			GEM-6012	STM-P33	
C47	470		03185360	BPD-00047	DD-471	BYA0T247	ED-470		UC-5347	SGA-T47	
C48	.01	600	03140780	BPD-01	DD-103	CUB3S	GP-10000		GEM-611	STM-S1	
C49	.01	500	03140300	BPD-01	DD-103	CUB3S	GP-10000		GEM-611	STM-S1	
C50	3.3		03153490	MPG-SI 3.3	TCZ-3R3	C10Y33C	TCO-3.3		ZT-5447	STCCB-V33	NP0
C51	47		03185350	MPG-SI 47	TCZ-47	C10Q47C	TCO-47		ZT-5447	STCCB-Q47	
C52	10000		03185690	BPD-01	DD-103	BYA0S2	ED-01		DC52I	SHK-S1	
C53	10000		03185930	BPD-01	DD-103	BYA0S2	ED-01		DC52I	SHK-S1	
C54	470		03185360	BPD-00047	DD-471	BYA0T247	ED-470		UC-5347	SGA-T47	
C55	.01	400	03140300	BPD-01	DD-103	CUB3S1	GP-10000		GEM-611	STM-S1	
C56	4700		03153740	BPD-0047	DD-472	BYA0D247	ED-4700		UC-5447	SHK-D47	
C57	220		03174090	BPD-00022	DD-221	L10T22	ED-220		UC-5323	SGA-T22	
C58	1000		03185290	BPD-01	DD-103	BYA0S1	ED-01		DC52I	SHK-S1	
C59	.0068	1000	03139687	P068N-0068		CUB1D68			GEM-1068	STM-D68	
C60	.033	200	03140330	BPD-03	DF-303	CUB2S33			GEM-3233	STM-S33	
C61	.1	300	03140140	P388N-1	DF-104	CUB3P1			GEM-3014	STM-P1	
C62	1000		03153700	BPD-001	DD-102	BYA0S2	ED-1000		DC52I	SHK-D	
C63	.18	200	03140810						GEM-3015		10%
C64	1500		03153710	BPD-0015	DD-152	BYA0D15	ED-1500		DC52I5	SHK-DI5	
C65	.0033	600	03141730	BPD-0033	DE-332	CUB5D33	GP-3300		GEM-5233	STM-S33	
C66	330		03180350	BPD-0033	DD-331	L10T33	ED-330		UC-5333	SGA-T33	
C67	.1	300	03140360	P388N-1	DF-104	CUB3P1			GEM-301	STM-P1	
C68	.022	600	03141780	BPD-02	DD-303	CUB5S22	ED-03		GEM-6122	STM-S22	

PARTS LIST AND DESCRIPTIONS

CAPACITORS (cont)

ITEM No	RATING		DUMONT PART No.	REPLACEMENT DATA					NOTES
	CAP	VOLT		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C69	.0047	600	03140580	BPD-0047	DD-472	CUB4D47	GP-4700	GEM-5347	STM-D47	
C70	.0047	400	03140580	464-0047		1RSD47			MS-347	10%
C71	.01	300	03140000	464-01		1DS3S			MS-11	10%
C72	.1	600	03141830	P668N-1	DF-104	CUB6P1		GEM-601	STM-P1	
C73	.047	200	03140080							10%
C74	.056	200	03140090		TCM-180	C10T18U	TCT-180			NT60 10%
C75	180		03153640		TCM-180	C10T18U	TCT-180			NT60
C76	180		03153640		TCM-180	C10T18U	TCT-180			
C77	.0027	600	03140550	BPD-0035	DE-372	CUB6D27	GP-2700	GEM-5227	STM-D27	
C78	.01	300	03140000	BPD-01	DD-103	CUB3S1	GP-10000	GEM-311	STM-S1	
C79	.1	300	03140127					GEM-301		10%
C80	.0047	600	03140580	464-0047		1RSD47		GEM-5347	MS-347	10%
C81	.0047	400	03139693	464-0047		1RSD47			MS-347	5%
C82	33		03185330	N750-SI 33	TCN-33	C10Q33U	TCT-33		NT50 10%	
C83	330		03102105	1469-00039		1RS739			MS-339	5%
C84	180		03153620	N750-SI 180	TCN-180	C10T18U	TCT-180		NT50 10%	
C85	390		03102110	1469-00039		1RS739			MS-339	5%
C86	180		03202460	1469-00018	TCZ-180	1RS518	TCO-180		MS-318	10%
C87	4700		03183760	BPD-0047	DD-472	BYA0D47	ED-0047	UC-5347	SGA-D47	
C88	.047	400	03164100	BPD-05	DD-503	CUB4S47		GEM-4147	STM-S47	
C89	470		03121560	BPD-00047	DD-471	BYA0T247	ED-470	UC-5347	SGA-T47	
C90	.01	500	03140300					GEM-601		10%
C91	.1	300	03140120					GEM-301		10%
C92	75	1000	03189610		DD80-750	HVA20Q75				
C93	.33	600	03141640	P468N-33		CUB4P33		GEM-4033	STM-P33	

RESISTORS (cont)

ITEM No	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	DUMONT PART No.	IRC PART No.	
R109	10K		02252480	BTS-10K	
R110	42500 5%	7	02248600		

Note 1. Some versions may use a 820K (Part #02031510) in this application.
Note 2. Some versions may use a 5K, 4W, (Part #02223020) in this application.

ITEM No	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	DUMONT PART No.	IRC PART No.	
R111	330K	2	02251710	BTS-330	
R112	100K	1	02045910	BTA-100K	

TRANSFORMER (POWER)

ITEM No	RATING				REPLACEMENT DATA				
	PRI.	SEC. 1	SEC. 2	SEC. 3	DUMONT PART No.	Hallodrson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	UTVAC	870VCT	6V	6.3V	30010188 ①		P-8088 ②	P-8334 ②	26R92 ④	R-86BC
	& 1.7A		& .285A	& 3A						

1 Alternate part #20010752.
2 Tape 6.3V ③ 4.5A filament winding.
3 Tape 5.3V ③ 1.2A filament winding. Fabricate mounting.
4 Tape 6.3V ③ 4.5A and 6.3V ③ 1.2A filament windings.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No	USE	REPLACEMENT DATA							
		DUMONT PART No.	Hallodrson PART No.	Merit PART No.	RCA TYPE No.	Rom PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Vert. Osc.	20009781	D8702	A-3003	30971 -1	V-605	A-8125	26A03	A-97X
T3	Horiz. Output	20010851				X093 &	NO-125 *		
						201U14 1st	&		
T4	Vert. Output	20010451	Z1807 1/2	A-2824 1/2		V315 1/2	YO-101	26S75 ⑤	A-410X
T5A	Yoke-Horiz.(15.2MH)	20012481	DF807 1/2	MDF-22 1/2	235D1 ⑥	V907F19 1/2	DY-16A ⑤	Y-18 ⑤	Y-41 &
B	(90°) Vert.(42MH)								NW8 ⑤
M6	Rear Cover & Centering Device	29000771							YCI

① Drill new mounting hole(s).
② Cut and tape blanking lead.
③ Use 15 to 1 turns ratio. Connect as auto transformer.
④ Use original horizontal yoke damping network, if necessary.
⑤ Use original rear cover and centering device.
* This part may be superceded by Parts Manufacturer's introduction of special unit for this application.

* HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

	ORIGINAL 110DEG(T10K)	Halldorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Rom Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
	9				2	3		
	8				1	11		
	7				6	2		
	6				4	6		
	5				7	1		
	4				OUTER WINDING	8		
	3				OUTER WINDING	7		
Correct Width Coil Series					Inner wind-ing of 201U14 across 5&7			
Special Notes					⑦	⑦		

⑦ If picture is out of phase, reverse either primary or secondary width coil winding.
If insufficient width, connect approximately 50-100MMF @ 4KV across Horiz. tube terms. #3 & #1.
Remove one turn from filament winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC	DUMONT PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T8	6300Ω	3-4Ω	30009795	Z1107	A-3930	A-3877	24S51	S-3X	① Alternate part number.
	6300Ω	4-4Ω	30009792 ①	Z1000 ②	A-2900 ②	A-3850 ②	24S60 ②	S-8IX ②	② Taps center tap on primary winding.
		Tap @ 1.6Ω							

SPEAKER

ITEM No	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V C SMP.	DUMONT PART No.	QUAM PART No.	
SP1	8"	PM	3-4Ω	18003907 ①	6A15	① Used in Derbyshire Models
	4" x 6	PM	3-4Ω	18003922 ②	6B4I	② Used in Shelby & Stanford Models
	8"			18003733 ③		③ Used in Wilshire & Windsor Models
	②			18003784 ②		④ Used in Wilshire & Windsor Models

COILS (RF-IF)

ITEM No	USE	DUMONT PART No.	NOTES
L1	Ant. Trans.	20009282	
L2	Ant. Trans.	20009262	
L3	IF Trap	20014481	
L4	UHF IF Input Coil	20014302	
L5	Fil. Choke	20004833	
L6	RF Choke	20012573	
L7	UHF IF Trans.	20010441	
L8	Mixer Plate Coil	20014901	

ITEM No	USE	REPLACEMENT DATA				NOTES
		DUMONT PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L9	40.2MC Coil	20014941			6225	
L10	41.25MC Trap	20014951			6225	
L11	47.25MC Trap	20014961	20-1049	TV-153	6225	
L12	1st. Video IF	20014971		TV-151	6225	
L13	47.25MC Trap	20014981	20-1049	TV-153	6225	
L14	Fil. Choke	20011762	10-1001		6804	1.5 Microhenries
L15	2nd. Video IF	20008985	17-4512	TV-130	6219	
L16	Fil. Choke	20011762	10-1001		6804	1.5 Microhenries

CONTROLS

ITEM No	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	DUMONT PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	1Meg	1/4	03170411					Volume- tap ② 500K
B	Shaft							
R3A	100K	1/4	03170533	B-49	A47-100K-B	QJ-128	U41	Brightness
B	Shaft			Not Reg.	KSB-3	SQ	Not Reg.	
R3A	5000Ω	4	01028081	WW-502	A10-5000	WPK5000	M58PX *	Contrast - wire wound
B	Shaft			Not Reg.	FS-3	Not Reg.	Not Reg.	
R4A	3Meg	1/4	01054591	B-84	A47-3Meg-B	QJ-140	U59	Picture Stabilizer
B	Shaft			Not Reg.	KSB-3	SQ	Not Reg.	
B	Switch			ED-1	SWB-12	TS-1	U35-BI	Local-Di stance
R5A	50K	1/4	03170531	B-31	A47-50K-B	QJ-133	U35	Horiz. Hold
B	Shaft			Not Reg.	KSB-3	SQ	Not Reg.	
R6A	500K	1/4	03170538	B-59	A47-500K-B	QJ-134	U60	Vert. Hold
B	Shaft			Not Reg.	KSB-3	SQ	Not Reg.	
R7A	1Meg	1/4	01056045	AB-89	A47-1Meg-B	BU-137	BU-84	Dumonitor
B	Shaft			AK-1	FKB-1/2	TM3-KH	Not Reg.	
R8A	1Meg	1/4	01056045	AB-89	A47-1Meg-B	BU-137	BU-84	RF AGC Delay
B	Shaft			AK-1	FKB-1/2	TM3-KH	Not Reg.	
R9A	1500Ω	4	01056033	AB-6	A47-1500-B	BU-109	PTA8XL	Vert. Lin.
B	Shaft			AK-1	FKB-1/2	TM3-KH	Not Reg.	
R10A	3Meg	1/4	01056043	AB-84	A47-3Meg-B	QJ-140	7A25L	Vert. Size
B	Shaft			AK-1	FKB-1/2	SQ	Not Reg.	
R11A	200K	1/4	03170501	BX-46	A47-200K-B	SU-129	U43	Horiz. Freq. Set
B	Shaft			Not Reg.	FKB-1/2	TM3-KH	Not Reg.	
R12A	15K	2	03170512	WW-153	A58-15K	WPK5000	BU84L	Horiz. Sine
B	Shaft			Not Reg.	FKB-1/2	Not Reg.	Not Reg.	

* File shaft flat on knurled portion 3/32 x 1/16".

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	DUMONT PART No.	IRC PART No.	
R1	10K		02031890	BTS-10K	
R2	220K		02031810	BTS-220K	
R3	820K 5%			BTS-820K 5%	Note 1
R4	820K 5%			BTS-820K 5%	Note 1
R7	390Ω		02031840	BTS-390Ω	
R8	820Ω		02031760	BTS-820	
R9	100K		02031930	BTS-100K	
R10	100Ω		02032000	BTS-100R	
R11	2200Ω		02031850	BTS-2200	
R12	6800Ω		02031870	BTS-6800	
R13	100Ω		02032380	BTS-100	
R14	5600Ω		02031880	BTS-5600	
R15	100K		02032010	BTS-100K	
R16	15K	4	03200770		
R17	8.2Meg		02052240	BTS-8.2Meg	
R18	6.8Meg		02252250	BTS-6.8Meg	
R19	470K		02252580	BTS-470K	
R20	8.8Meg		02252650	BTS-8.8Meg	
R21	1.8Meg 5%		02251260		
R22	120K		02252020		
R23	8.2Meg		02252240	BTS-8.2Meg	
R24	2700Ω 5%		02250580		
R25	470Ω		02031780	BTS-470	
R26	47Ω		02251610	BTS-47	
R27	22K		02031920	BTS-22K	
R28	100K 5%		02250990	BTS-100K 5%	
R29	6800Ω		02251870	BTS-6800	
R30	470Ω		02031780	BTS-470	
R31	100K 5%		02250960	BTS-100K 5%	
R32	15Ω		02251540	BTS-15	
R33	470Ω		02252400	BTS-470	
R34	180Ω		02251180	BTS-180	
R35	1Meg		02252130		
R36	150K 5%		02250000		
R37	2200Ω 5%		02250560		
R38	2200Ω 5%		02250580	BTS-2200 5%	
R39	10K		02251890	BTS-10K	
R40	15K		02251810	BTS-15K	
R41	22K		02251920	BTS-22K	
R42	2.7K		02257940	BTS-2.7K	
R43	270Ω		02251580	BTS-27	
R44	1200Ω	2	03257780	BTS-1200	
R45	180K		02252040	BTS-180K	
R46	330K		02252060	BTS-330K	
R47	56K		02251980	BTS-56K	
R48	2700Ω		02251820	BTS-2700	
R49	33K		02252030	BTS-33K	
R50	56K		02251990	BTS-56K	

ITEM No	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	DUMONT PART No.	IRC PART No.	
R51	68K		02251990	BTS-68K	
R52	27K	1	02254940	BTA-27K	
R53	4700Ω		02251850	BTS-4700	
R54	100Ω		02252430	BTS-1000	
R55	470Ω		02251730	BTS-470	
R56	390Ω		02251720	BTS-390	
R57	47K		02251970	BTS-47K	
R58	10Meg		02252080	BTS-10Meg	
R59	470K		02252590	BTS-470K	
R70	470K		02252590	BTS-470K	
R71	15K	1	02254600	BTA-15K	
R72	1500Ω	4	02223150	PW4-150	
R73	220Ω	1	02254590	BTA-220	
R74	33K		02252560	BTA-33K	
R75	220K		02252560	BTS-220K	
R76	330K		02252070	BTS-330K	
R77	330K		02252070	BTS-330K	
R78	18K	1	02254920	BTA-18K	
R79	1Meg		02252600	BTS-1Meg	
R80	15K		02251910	BTS-15K	
R81	22K		02251930	BTS-22K	
R82	8200Ω		02251880	BTS-8200	
R83	10K		02251890	BTS-10K	
R84	470K		02252290	BTS-470K	
R85	27K		02251940	BTS-27K	
R86	1Meg		02252130	BTS-1Meg	
R87	2.2Meg		02252620	BTS-2.2Meg	
R88	10K		02251890	BTS-10K	
R89	330Ω		02253280	BTS-220	
R90	1200Ω		02251760	BTS-1200	
R91	560Ω		02041740		
R92	560Ω		02041740		
R93	1.5Meg		02252610	BTS-1.5Meg	
R94	390K		02252090	BTS-390K	
R95	15K		02251910		
R96	820K		02252120		
R97	15K	2	02257980	BTS-15K	
R98	68K		02251990		
R99	15K	1	02254900		
R100	100K 5%		02250960		
R101	22000 5%		02250560	BTS-2200 5%	
R102	15K		02251910	BTS-15K	
R103	100Ω		02252360	BTS-100	
R104	470K		02252590	BTS-470K	
R105	100Ω		02252360	BTS-100	
R106	100K	4	02200750	PW10-100	Note 2
R107	4700Ω	3	02251850	BTS-4700	
R108	4700Ω		02251850	BTS-4700	

DUMONT CHASSIS RA370, RA371

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		DUMONT PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L17	3rd. Video IF	20008995	17-4523	TV-130	6219	
L18	4th. Video IF	20008997	17-4523	TV-130	6219	
L19	RF Choke	21012451	19-6022		4515	23 Microhenries
L20	Shunt Peaking Coil	21014252	19-4201	TV-184	6154	200 Microhenries
L21	Series Peaking Coil	21014251	19-3100		6112	105 Microhenries
L22	4.5MC Trap	21013781	20-1004	TV-151	1469	
L23	Series Peaking Coil	21014251	19-3100		6112	105 Microhenries
L24	1st. Sound IF	21013791	20-1004	TV-151	1469	
L25	Ratio Det.	20009043	17-3497 *	TV-115 *	6205 *	
L26	RF Choke	21006550				8.2 Microhenries, IRC part #CL-1
L27	RF Choke	21006550				8.2 Microhenries, IRC part #CL-1
L28	RF Choke	21006520		BC-564	4609	4.7 Microhenries, IRC part #CL-1

* Use adaptor plate.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA							NOTES
	PRI.	SEC.	DUMONT PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	
L29	53Ω		21010992	19-1576	TV-163	6210			HS-5	13-40 Millihenries

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∿)	DUMONT PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L30	.285A	37Ω	1.4 Hy.	21010958	C5037	C-2996	C-2326 ①	26C44 ①	C-17X

① Drill one new mounting hole.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DUMONT PART No.	REPLACEMENT DATA
K1	Audio Det. Couplate	680MMF, 3300MMF, 10000MMF, 33000Ω, 22000Ω	88001671	

FUSES

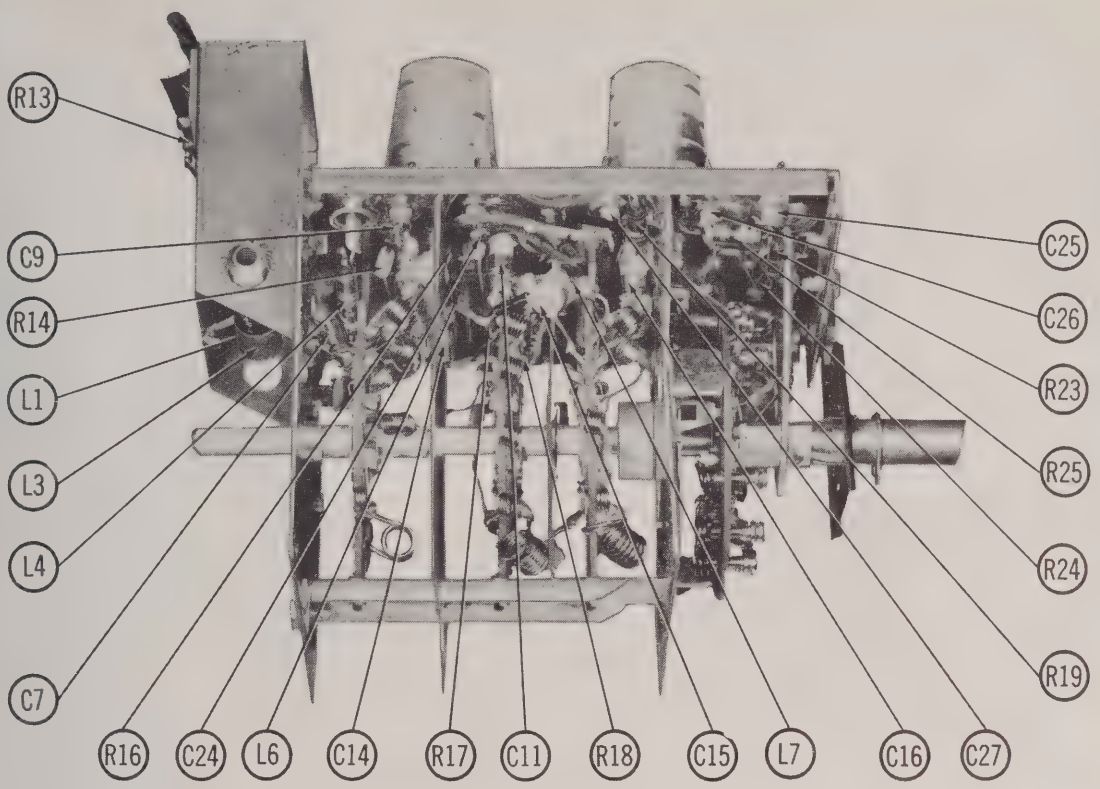
ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			DUMONT PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	N	3/4A 250V S/B	11006110	11006420	333.750 (N 3/4A S/B)	346010	N 3/4	HN 1/2 to 3/4

CRYSTAL DIODES

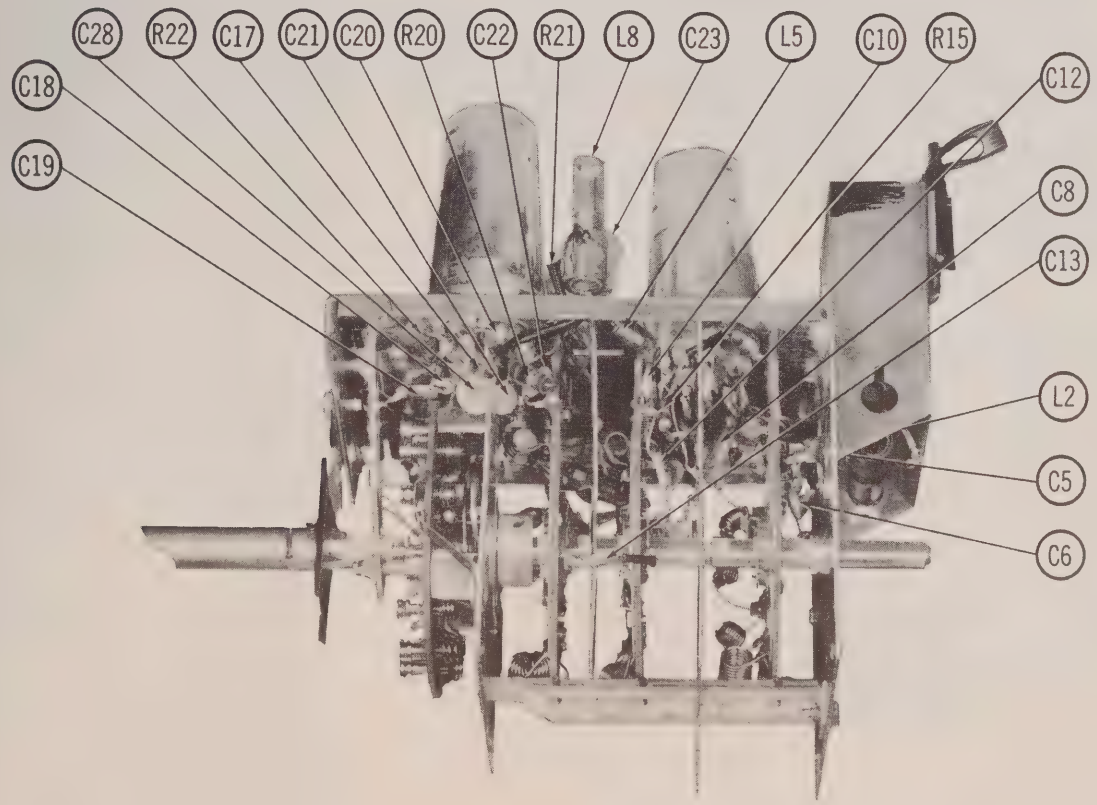
ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		DUMONT PART No.	CBS PART No.	SYLVANIA PART No.	
M2	1N295	26001891		1N60	Video Det. (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	DUMONT PART No.	NOTES
M3	Dial Light	12001310	#47 Type
M4	Tuner	89014061	VHF
	Tuner	89014081	UHF
M5	Switch	05012193	On-off
M6	Centering Device	29000771	Includes rear yoke cover
M7	Ion Trap	29000831	
	Safety Glass	45006735	21" Models
	Safety Glass	45006734	24" Models
	Mask	64011853	21" Models
	Mask	64011813	24" Models
	Knobs	45007421	Channel Selector (Mahogany)
	Knobs	45007422	Channel Selector (Blond)
	Knobs	45007431	Fine Tuning - Used in Ch. RA-370
	Knobs	45007432	Fine Tuning - Used in Ch. RA-371
	Knobs	45007351	Volume
	Pushbutton	45007341	On-off
	Dial	45007411	UHF (Mahogany)
	Dial	45007412	UHF (Blond)

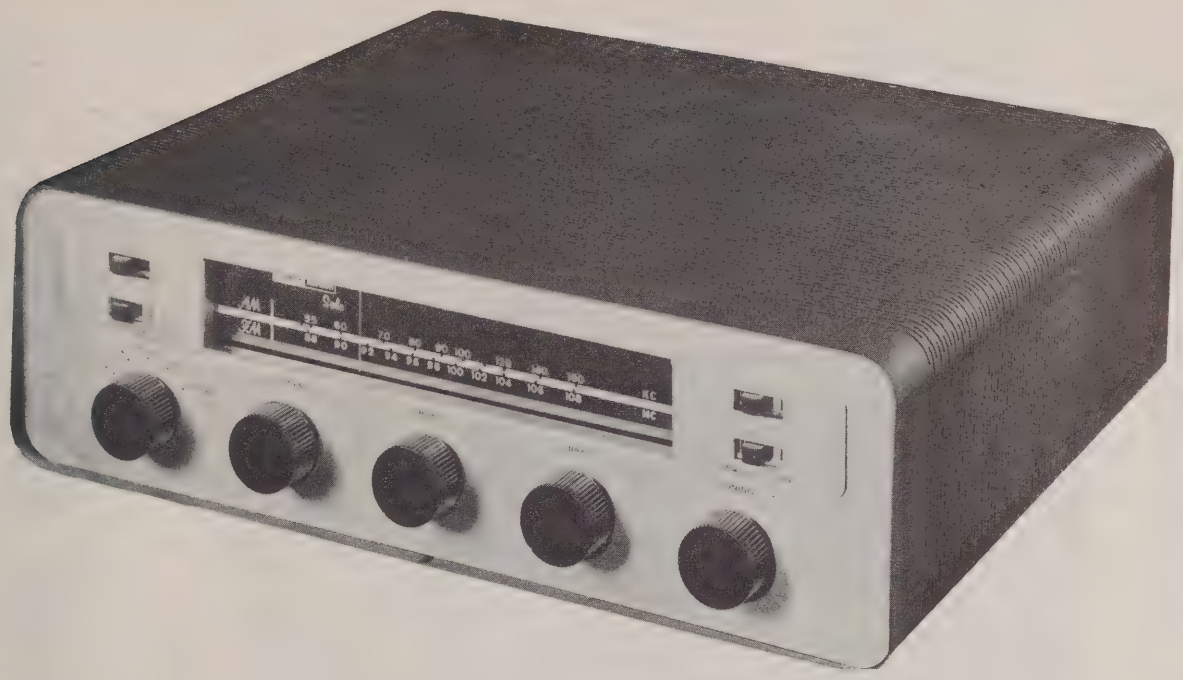


RF TUNER-LEFT SIDE



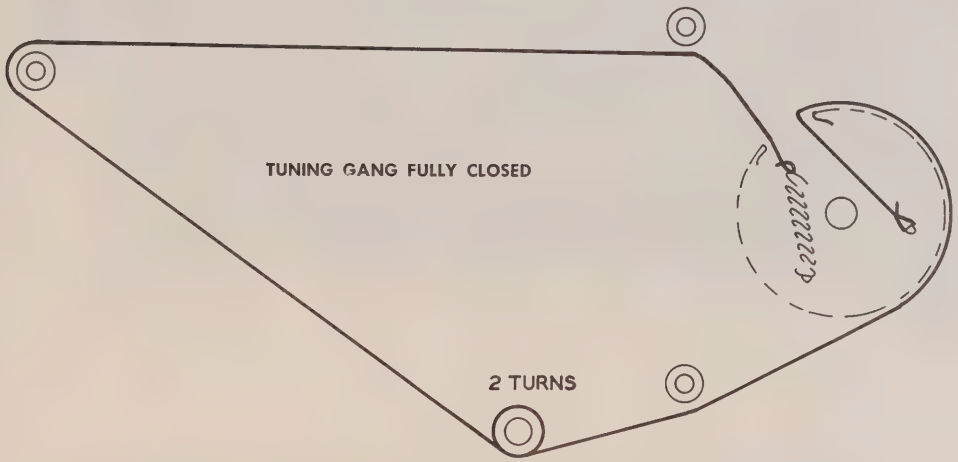
RF TUNER-RIGHT SIDE

HARMON-KARDON
MODEL TA-10 (Revised)



TRADE NAME	Harman-Kardon Model TA-10 (Revised)	
MANUFACTURER	Harman-Kardon, Inc., 520 Main St., Westbury, L.I., N.Y.	
TYPE SET	AC Operated FM-AM Receiver	
TUBES	Twelve	
POWER SUPPLY	105-125 Volts AC-60 Cycles	RATING .77 Amp. @ 117 Volts AC (80 Watts)
TUNING RANGE-BROADCAST	530KC-1650KC	FREQ. MOD. 88MC-108MC

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO



DIAL CORD STRINGING

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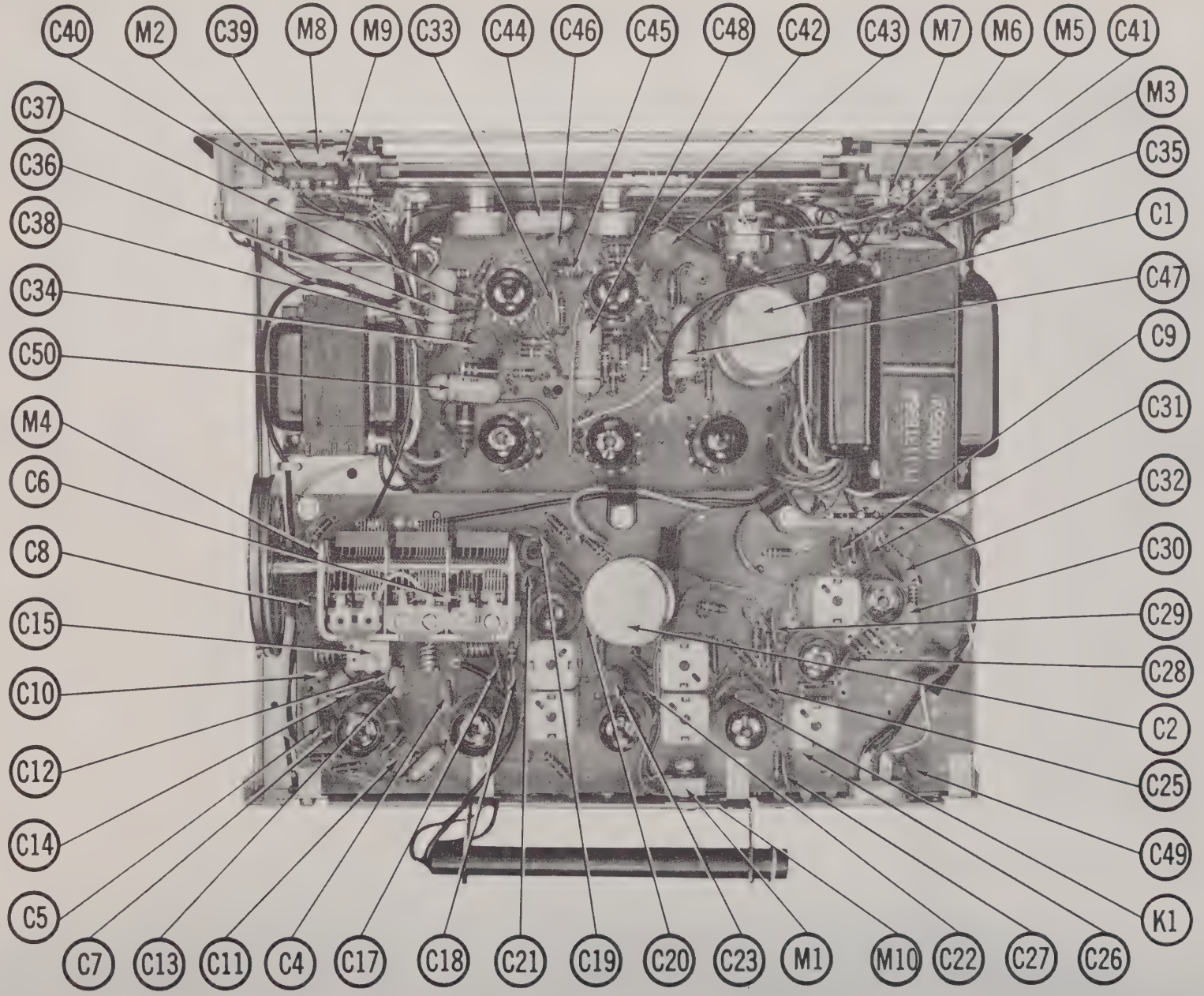
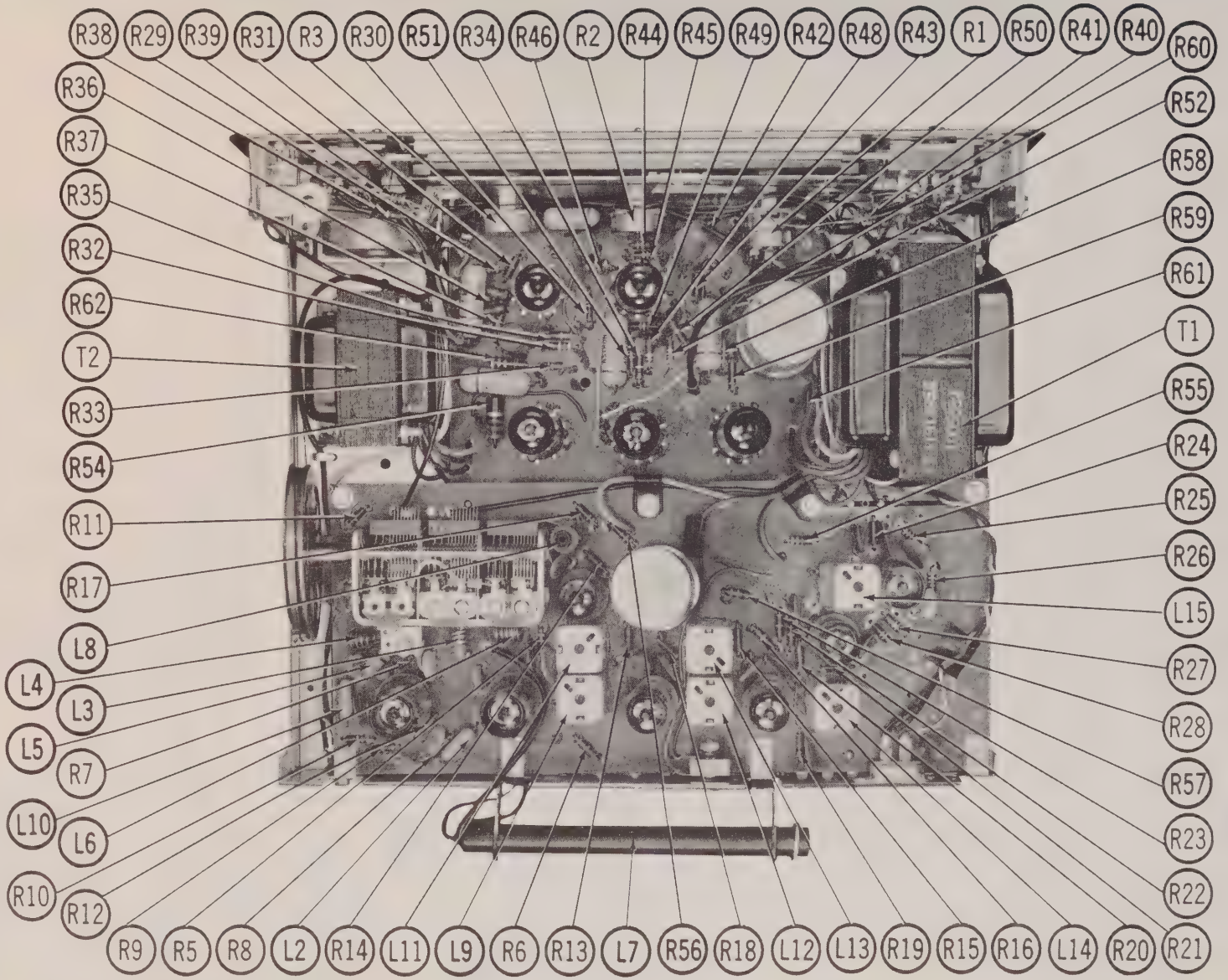


CHASSIS TOP VIEW - CAPACITOR IDENTIFICATION



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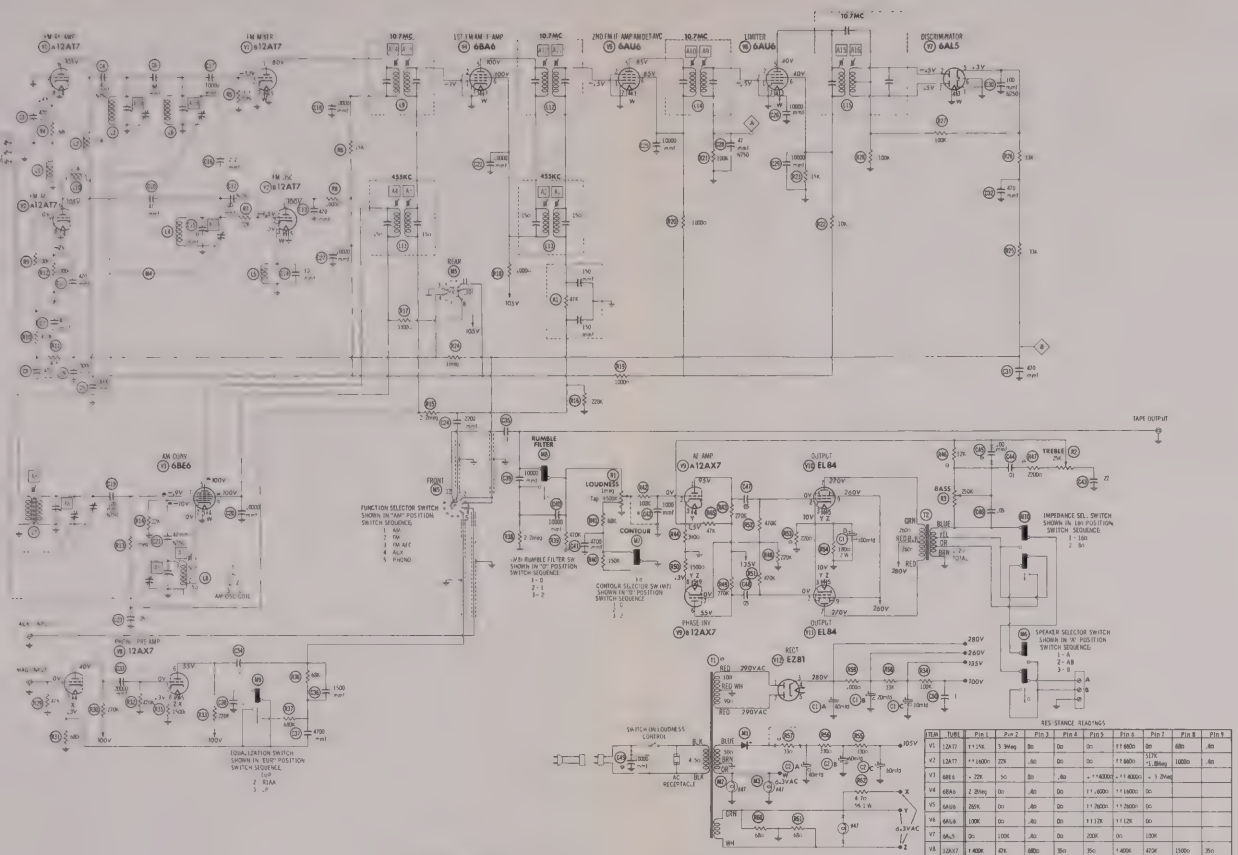
CHASSIS TOP VIEW - RESISTOR IDENTIFICATION

HARMAN-KARDON
MODEL TA-10



RESISTANCE READINGS

TUBE	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AT7	††1.5K	5.3Meg	0Ω	0Ω	0Ω	††680Ω	0Ω	68Ω	.4Ω
V2	12AT7	††1400Ω	22K	.4Ω	0Ω	0Ω	††680Ω	517Ω *1.8Meg	100Ω	.4Ω
V3	6BE6	~ 22K	3Ω	0Ω	.4Ω	~ ††400Ω*	~ ††400Ω*	~ 3.2Meg		
V4	6BA6	2.2Meg	0Ω	.4Ω	0Ω	††.600Ω	††1400Ω	0Ω		
V5	6AU6	265K	0Ω	.4Ω	0Ω	††260Ω	††260Ω	0Ω		
V6	6AL6	100K	0Ω	.4Ω	0Ω	††12K	††12K	0Ω		
V7	6AL5	0Ω	100K	.4Ω	0Ω	200K	0Ω	100K		
V8	12AX7	†400K	47K	680Ω	35Ω	35Ω	†400K	470K	1500Ω	35Ω
V9	12AX7	†305K	100K	390Ω	35Ω	35Ω	†305K	220K	1500Ω	35Ω
V10	EL84	NC	690K	120Ω	35Ω	35Ω	NC	†260Ω	NC	†100Ω
V11	EL84	NC	690K	120Ω	35Ω	35Ω	NC	†260Ω	NC	†100Ω
V12	EZ81	120Ω	NC	88K (each)	35Ω	35Ω	NC	95Ω	NC	NC

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
NC NO CONNECTION
TP TIE POINT
†† MEASURED FROM OUTPUT OF V12
† MEASURED FROM PIN 3 OF V12
* MEASURED IN "AM" POSITION
~ MEASURED IN "FM-AFC" POSITION

1. DC voltage measurements taken with vacuum tube voltmeter, AC voltages measured at 1000 ohms per volt
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative
4. Line voltage maintained at 117 volts for voltage readings
5. Nominal tolerance on component values makes possible a variation of ±5% in voltage and resistance readings
6. Volume control at maximum, no signal applied for voltage measurements.

* SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.
Use an insulated alignment screwdriver for adjusting.
Treble control to extreme clockwise position.
To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.

AM ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	.01MFD	High side to AM RF Stator lug on tuning gang. Low side to chassis.	455KC (400∿Mod)	AM (Sharp)	1600KC	AC VTVM across speaker terminals	A1, A2, A3, A4	Adjust for maximum deflection.
2.	"	High side to AM antenna terminal. Low side to chassis.	1500KC	"	1500KC	"	A5, A6	"
3.	"	"	600KC	"	600KC	"	A7, A8	Adjust for maximum deflection. Repeat steps 2 and 3.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
4.	.01MFD	High side to FM RF stator lug on tuning gang. Low side to chassis.	10.7MC (Unmod)	FM (AFC off)	Point of non-interference	DC probe to point (A). Common to chassis.	A9, A10, A11, A12, A13, A14	Adjust for maximum deflection.
5.	"	"	"	"	"	DC probe to point (B). Common to chassis.	A15, A16	Adjust A16 for maximum deflection and A15 for zero reading with equal positive and negative deflection on either side of zero setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
4.	.01MFD	High side to FM RF stator lug on tuning gang. Low side to chassis.	10.7MC (450KC Swp)	FM (AFC off)	Point of non-interference	Vert. Amp. thru 1Meg to point (A). Low side to chassis.	A9, A10, A11, A12, A13, A14	Adjust for curve of maximum amplitude and symmetry similar to Fig. 1.
5.	"	"	"	"	"	Vert. Amp. thru 1Meg to tape output. Low side to chassis.	A15, A16	Adjust A16 so that 10.7MC occurs at center of crossover lines similar to Fig. 2. Adjust A15 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
6.	270Ω Carbon Resistor	High side to FM antenna terminal thru 270Ω. Low side to chassis.	106MC	FM (AFC off)	106MC	DC probe to point (A). Common to chassis.	A17, A18, A19	Adjust for maximum deflection.
7.	"	"	90MC	"	90MC	"	L4, L6, L3	Adjust for maximum deflection by compressing or expanding coil turns. Repeat steps 6 and 7.

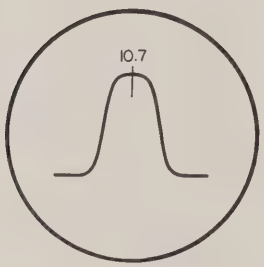


FIG. 1

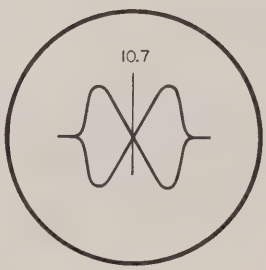


FIG. 2

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	FM RF Amp.-Mixer	12AT7	
V2	FM Osc.-AFC	12AT7	
V3	AM Converter	6BE6	
V4	1st. IF Amplifier	6BA6	
V5	2nd. FM IF Amp.- AM Det.-AVC	6AU6	
V6	Limiter	6AU6	
V7	Discriminator	6AL5	
V8	Phono Preamplifier	12AX7	
V9	AF Amp.-Phase Inv.	12AX7	
V10	Output	EL84	
V11	Output	EL84	
V12	Rectifier	EZ81	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA Harman-Kardon PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	40	350							R2412 *
B	▲20	350							
C	■10	350							
D	▲100	50							R2411 *
C2A	■40	150			DO320				
B	▲60	150							
C	60	150							

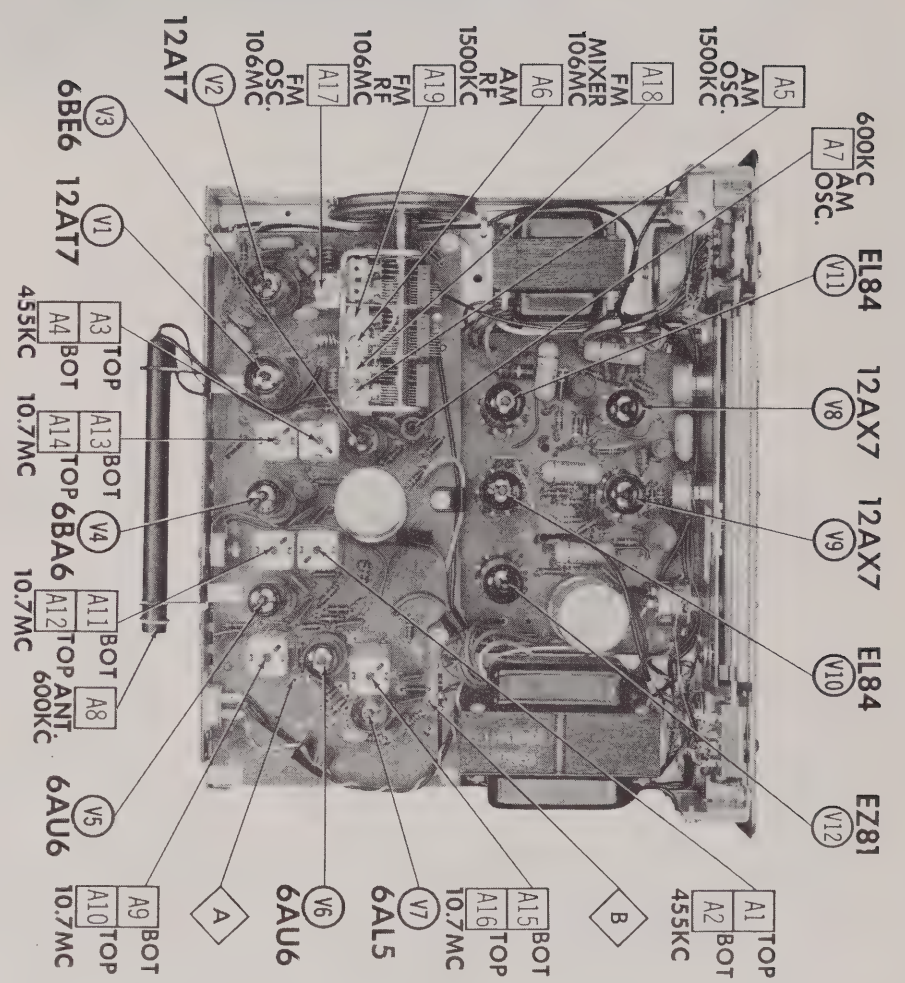
* Non-catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA Harman-Kardon PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C3	470			SI 470	D6-471	LT6T47	GP-470	UC-5347	5GA-T47	
C4	47			N750-SI 47	TCN-47	C10Q47U	TC7-47	NT-5447	5TCU-Q47	N750
C5	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C6	.68				TCZ-R68		TCO-.68			
C7	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C8	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C9	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C10	47			BPD-000047	DD-470	L10Q47	ED-47	UC-5447	5GA-Q47	
C11	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C12	100			N750-SI 100	TCN-100	C10T1U	TC7-100	NT-531	5TCU-T1	N750
C13	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C14	10			BPD-00001	DD-100	L10Q1	ED-10	UC-541	5GA-Q1	
C15	1-10									
C16	2.2			NP0-SI 2.2	TCZ-2R2	C10V22C	TCO-2.2		5TCCB-V22	
C17	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C18	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C19	100			N750-SI 100	TCN-100	L10T1U	TC7-100	NT-531	5TCU-T1	N750
C20	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C21	47			N750-SI 47	TCN-47	C10Q47U	TC7-47	NT-5447	5TCU-Q47	N750
C22	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C23	.05	200		BPD-05	DF-503	BC2S47J		ACE615	2SE-S47	
C24	2200			SI 2200	D6-222	LT6D22	GP-2200	UC-5222	5GA-D22	
C25	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C26	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C27	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C28	47			N750-SI 47	TCN-47	C10Q47U	TC7-47	NT-5447	5TCU-Q47	N750
C29	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C30	100			N750-SI 100	TCN-100	C10T1U	TC7-100	NT-531	5TCU-T1	N750
C31	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C32	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C33	20000			BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C34	.1	200		P288N-1	DF-104	BC2P1J		ACE401	2SE-P1	
C35	.1	200		P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1	
C36	1500			SI 1500	D6-152	LT6D15	GP-1500	UC-5215	5GA-D15	
C37	4700			SI 4700	D6-472	LT6D47	GP-4700	UC-5247	5GA-D47	
C38	.1	200		P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1	
C39	10000			BPD-01	D6-103	BYA6S1	GP-10000	DC511	5HK-S1	
C40	10000			BPD-01	D6-103	BYA6S1	GP-10000	DC511	5HK-S1	
C41	4700			SI 4700	D6-472	LT6D47	GP-4700	UC-5247	5HK-D47	
C42	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	③
C43	.22	200		P288N-22		BC2P22J		ACE6022	2SE-P22	
C44	.01	200		BPD-01	DD-103	CUB2S1	GP-10000	GEM-211	2TM-S1	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA Harman-Kardon PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C45	100			SI 100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	①
C46	.05	200		BPD-05	DF-503	BC2S47J		ACE615	2SE-S47	
C47	.05	400		BPD-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C48	.05	400		BPD-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C49	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-D1	②
C50	.1	200		P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1	

① Not used in some versions.
② Some versions use .047MFD in this application.
③ C42 is 22MMF when connected in parallel with R42

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Harman-Kardon PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A B	1Meg Switch	1/2	RV901583					Loudness, tap ⓐ 500K
R2	25K	1/2	RV901581					Treble
R3	250K	1/2	RV901582					Bass

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA Harman-Kardon PART No.	IRC PART No.	NOTES
R4	68Ω			BTS-68	
R5	3.3Meg			BTS-3.3Meg	
R6	15K			BTS-15K	
R7	22K			BTS-22K	
R8	1000Ω			BTS-1000	
R9	100Ω			BTS-100	
R10	470K			BTS-470K	
R11	47K			BTS-47K	
R12	1000Ω			BTS-1000	
R13	1Meg			BTS-1Meg	
R14	22K			BTS-22K	
R15	2.2Meg			BTS-2.2Meg	
R16	220K			BTS-220K	
R17	3300Ω			BTS-3300	
R18	1000Ω			BTS-1000	
R19	1000Ω			BTS-1000	
R20	1000Ω			BTS-1000	
R21	100K			BTS-100K	
R22	10K			BTS-10K	
R23	15K			BTS-15K	
R24	1Meg			BTS-1Meg	
R25	33K			BTS-33K	
R26	33K			BTS-33K	
R27	100K			BTS-100K	
R28	100K			BTS-100K	
R29	47K			BTS-47K	
R30	270K			BTS-270K	
R31	680Ω			BTS-680	
R32	470K			BTS-470K	
R33	270K			BTS-270K	
R34	100K			BTS-100K	
R35	1500Ω			BTS-1500	
R36	68K			BTS-68K	
R37	680K			BTS-680K	
R38	2.2Meg			BTS-2.2Meg	
R39	470K			BTS-470K	
R40	150K			BTS-150K	
R41	68K			BTS-68K	
R42	100K			BTS-100K	
R43	270K			BTS-270K	
R44	390Ω			BTS-390	
R45	47K			BTS-47K	
R46	12K			BTS-12K	Note 1
R47	2200Ω			BTS-2200	Note 2
R48	220K			BTS-220K	
R49	270K			BTS-270K	
R50	1500Ω			BTS-1500	
R51	470K			BTS-470K	
R52	470K			BTS-470K	
R53	220Ω			BTS-220	Note 3
R54	180Ω	2		BTB-180	
R55	330Ω			BTS-330	
R56	330Ω			BTS-330	
R57	33Ω			BTS-33	Note 4
R58	33K			BTS-33K	
R59	1000Ω			BTS-1000	
R60	68Ω			BTS-68	
R61	68Ω			BTS-68	
R62	4.7Ω 5%	1			

Note 1. Some versions may use 6800Ω in this application.
Note 2. Some versions may use 3300Ω in this application.
Note 3. Some versions may use 270Ω in this application.
Note 4. Not used in some versions.

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA Harman-Kardon PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC ⓐ .77A	130VAC ⓐ .040A Tap ⓐ 6.3VAC ⓐ 2.2A	500VCT ⓐ .080A	6.3VAC ⓐ 2.9A	FT1131895A ①					

① Alternate part #FT901572.

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA Harman-Kardon PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	7400Ω CT	16Ω tap ⓐ 8Ω, 4Ω	FT901645	Z1405 ①			22S66 ②	S-24A① ③	① Tape 500Ω impedance tap. ② Tape 250Ω & 500Ω impedance taps. ③ Drill new mounting holes.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA Harman-Kardon PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L1	FM Ant. Coil				4584	.24 Microhenry, IRC part #CLA
L2	RF Choke		19-1003	BC-564	4608	3.3 Microhenries, IRC part #CLA
L3	FM RF Coil	GL781543				
L4	FM Osc. Coil	GL781544				
L5	Cathode Choke		19-1000	BC-561	4602	1 Microhenry, IRC part #CLA
L6	FM Mixer Coil	GL781543				
L7	Loop Stick	GL781479				
L8	AM Osc. Coil	GL1121988				
L9	1st. FM IF	GT781491	16-3490			
L10	RF Choke		19-1003	BC-564	4608	3.3 Microhenries, IRC part #CLA
L11	1st. AM IF	GT781493	16-6780	BC-356	13-PC1	
L12	2nd. FM IF	GT781570	16-3490			
L13	2nd. AM IF	GT781493	16-6780	BC-357	13-PC2	
L14	FM Limiter	GT781570	16-3490			
L15	Discriminator	GT781492	17-3491			

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Harman-Kardon PART No.	REPLACEMENT DATA	
K1	Detector RF Filter	150MMF, 150MMF, 47K	PC781599	Aerovox	PA98
				Centralab	PC-51
				Cornell-Dubilier	111TM2
				Erie	1403-02
				Sprague	D-2

SELENIUM RECTIFIER

ITEM No.	RATING CURRENT (Measured)	REPLACEMENT DATA Harman-Kardon PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	NOTES
M1	.040A	Z781490		RS065Q		50	

MISCELLANEOUS

ITEM No.	PART NAME	Harman-Kardon PART No.	NOTES
M2	Dial Light		#47
M3	Dial Light		#47
M4	Tuning Cap.	JV781468	3 Gang
M5	Switch	ER901598	Function-Rotary type
M6	Switch		Speaker Selector, Slide type
M7	Switch		Contour
M8	Switch		Rumble
M9	Switch		Equalization
M10	Switch		Impedance Selector
	Printed Panels	PC11451D	RF-IF
	Printed Panels	PC21221H	Output
	Dial Glass	P901575	
	Pointer	Z24773	

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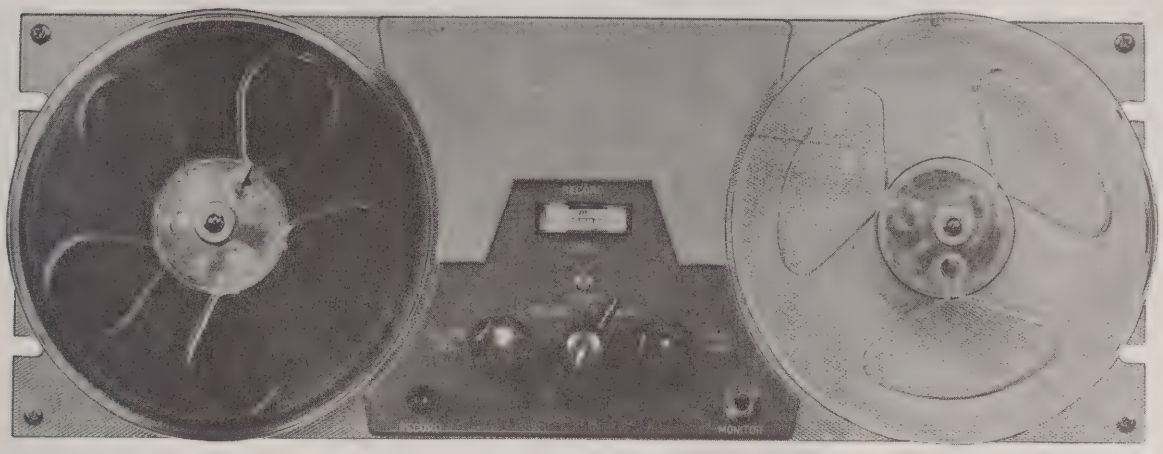
MAGNECORD
MODEL S-36B



MAGNECORD
MODEL S-36B

GENERAL INFORMATION

The Magnecord model S-36-B, Tape Recorder features Stop, Rewind, Play and Record modes of operation merely by turning a knob. This recorder is of the single track type, only one track is recorded on a 1/4 inch width tape. Any reel size up to 7" can be used. A recording level indicator simplifies the recording level setting. New recording can be made on previously recorded tape since the erase head is automatically connected when the "Record" button is pressed or the same recording may be played back indefinitely. Recordings can be made from a radio, television receiver, or phonograph, in addition to those made directly from the microphone.

Size Reel	7 1/2" Speed	15" Speed
5" (600 ft.)	1/2 hour	1/4 hour
7" (1200 ft.)	1 hour	1/2 hour

Model S-36-B is designed to operate on either 50 or 60 cycle power but a change of capstan is necessary to change one from the other.

Manufactured by:

Magnecord Inc.
1101 South Kilbourn Ave.
Chicago 24, Ill.

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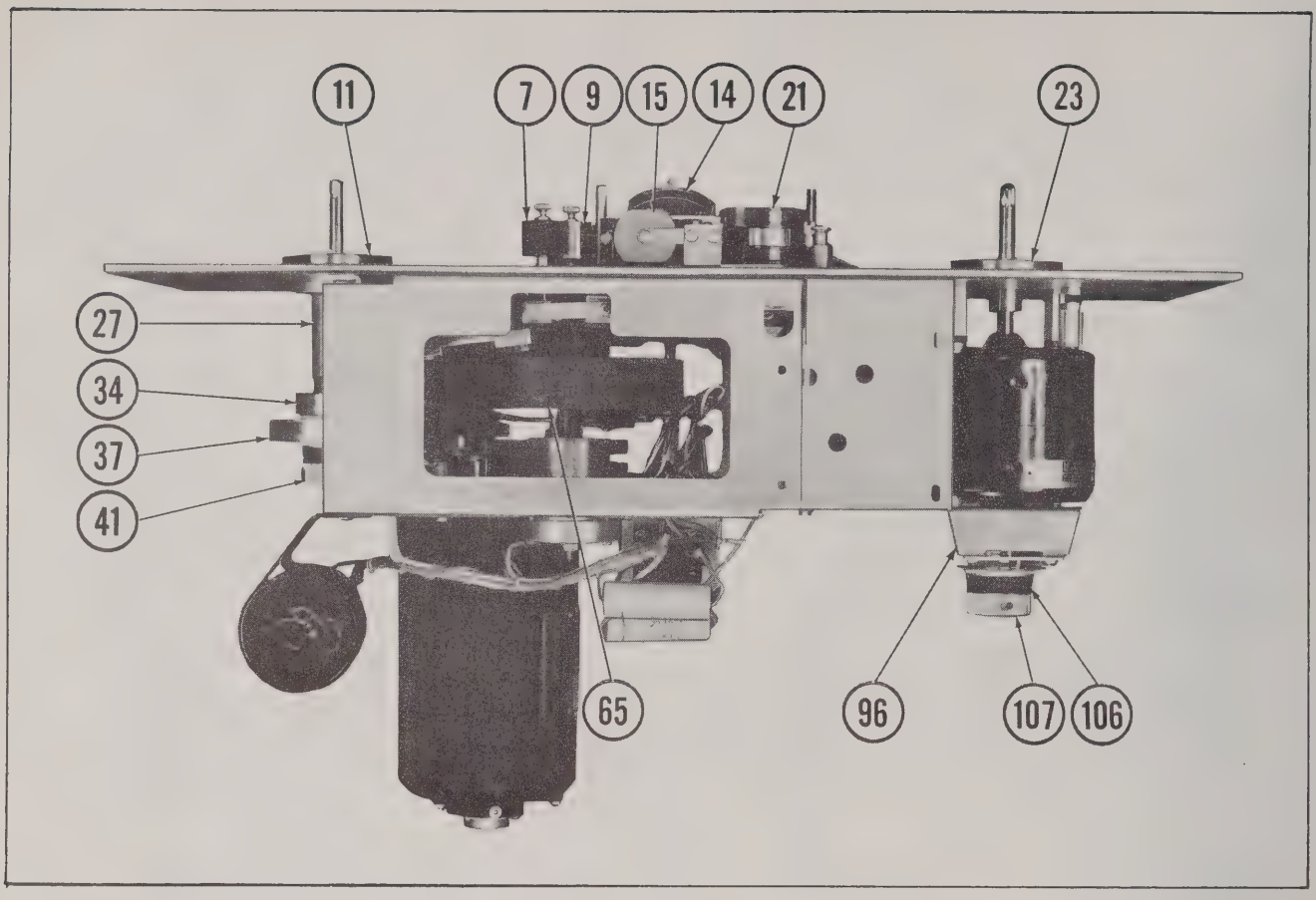

FIGURE 1

SPECIFICATIONS

Tape Speed: 7½" and 15" per second by capstan change.

Frequency Response: At 7½" per second — plus or minus 2db 50/12KC. At 15" per second — plus or minus 2db 50/15KC.

Wow And Flutter: .3% maximum.

Rewind Time: 40 seconds.

Signal To Noise Ratio: 50db, based upon full track recording at 3% T. H. D.

Power Consuption: 80 Watts.

Motor: Hysteresis synchronous motor drive.

Weight In Portable Case: Approximately 40 lbs.

Playback Amplifier Output: 600 ohms, balanced, at + 9 dbm.

Record Level Indicator: Illuminated V. U. Meter.

FUNCTION OF CONTROLS

Volume Control And On-Off Switch —

The control at the left side of the recorder is the volume control and On-Off switch. Turning the control in a clockwise direction turns on the recorder and increases the volume of the tape selection being played. This control also is used to control the volume of any recording being made.

Caution: Never turn recorder "Off" or pull AC cord while recorder is in rewind as this will cause the tape to spill or brake.

Main Control Knob —

The main control knob (1) controls the three main mechanical functions of the recorder. The center position is "Stop", the right position is "Forward" and the left position is "Rewind".

Fast Forward Control —

The "Fast Forward" control is the knob on the right side of the front panel. This control will only function when "Main Control" knob is in "Stop" position. To place recorder in "Fast Forward", turn control in a clockwise direction and hold. To stop recorder, release control.

Equalizing Switch —

The "Equalizing Switch" is a switch located on the rear of the recorder. The function of this switch is to provide proper equalization in the record position so that the proper equalization will be reproduced when the tape is played back. The switch is marked 15 and 7.5, 15 is for the speed of 15" per second, while 7.5 is for the slower speed of 7.5" per second. This switch should be correct any time a recording is made. This switch has no effect in the playback position.

Record Button —

The "Record" button is located on the front of the recorder under "Volume" control. To operate this

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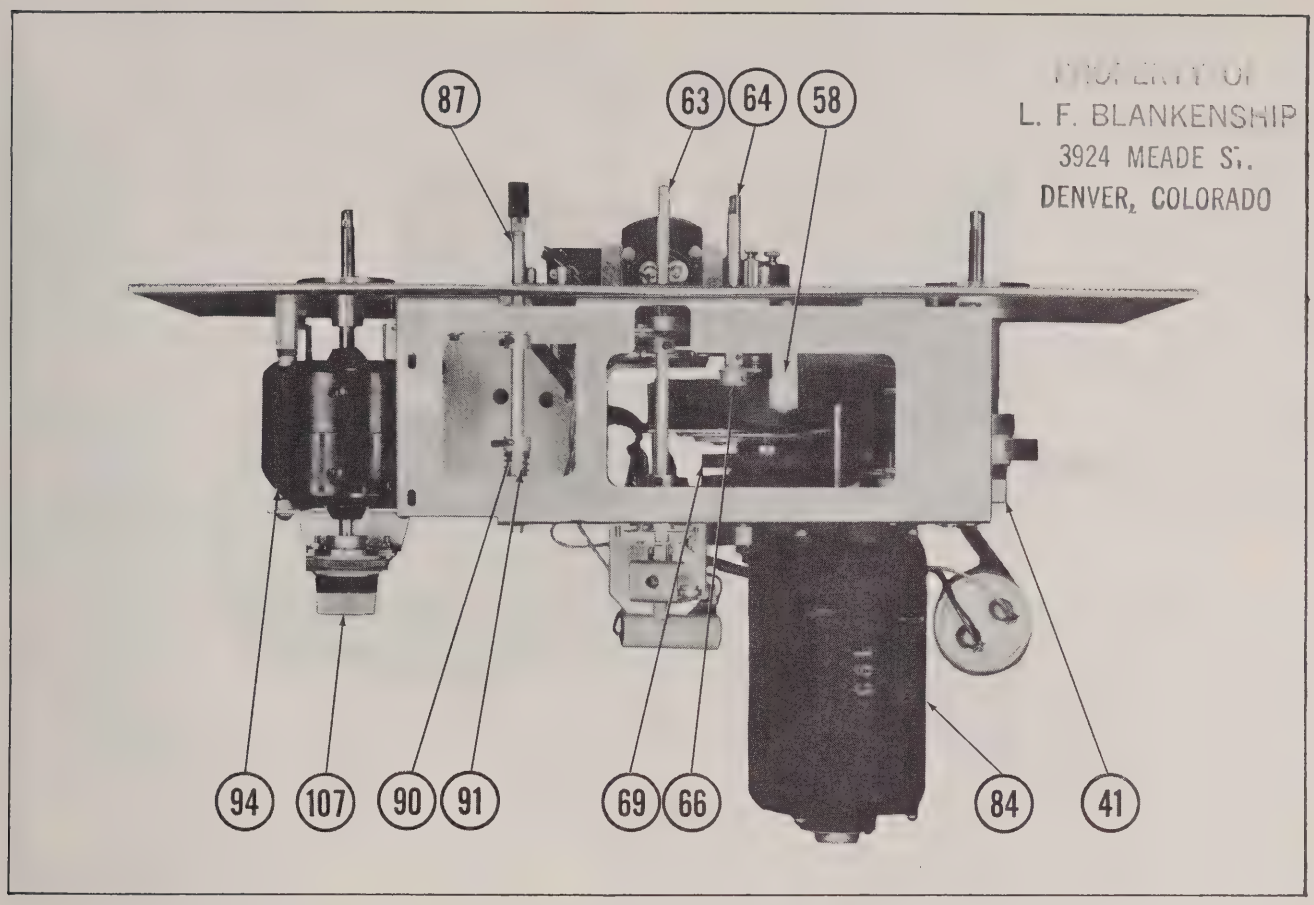

FIGURE 2

control, depress it and then turn "Control" knob (1) to "Forward" position. When the recording is finished simply turn the control knob (1) to "Stop" and the recorder automatically returns to "Playback" position. This prevents accidental erasure of the recorded material.

OPERATING INSTRUCTIONS

1. Unpack the recorder and set the unit on a flat surface.

2. Remove the lid from the recorder. And remove empty plastic reel in lid.

3. Remove the AC power cord from the lid of the recorder, and plug in to the receptacle on the back of the unit.

4. After making sure that On-Off-Volume control is in the "Off" position, plug the power cord into a convenient 110 volts 60 cycles power socket.

Threading The Tape —

Place a full reel of tape on the left hand reel spindle so that tape will unwind when the reel rotates clockwise. The shiny side of the tape should be on the outside, or in other words, the dull side of the tape should face the heads.

Pull forward and down on the head cover (4). The head cover is held both in the up and down positions by spring tension, and when in the down position gives access to the two heads, pressure roller and capstan for loading, editing and cleaning.

With the head cover down and tape on the left hand spindle, thread the tape under the guide rod (20); (located between the play-off reel and the first head) then over the first head and over the rod between the heads, and over the second head but under the metal cap, between the rubber pressure roller (7) and metal capstan (9), and onto the take-up reel. Place the loose end of the tape in one of the slots in the hub of the empty reel and rotate the empty reel clockwise a few turns so as to secure the tape. Reel up a few feet of leader tape by turning the "Fast Forward" knob clockwise until the take-up reel begins to turn.

Note: The "Fast Forward" knob should be used only when the control knob is in the "Stop" position.

Speed Change —

The recorder comes with a 15 inch per second capstan and pressure roller on the machine. In the two manila bags are the set of 7 1/2 inch per second capstan and pressure roller. The 7 1/2 inch per second pressure roller and capstan set consists of the larger pressure roller and smaller metal capstan. To change the operating speed of the recorder, place the head cover in the down position and unscrew the knurled screw holding the pressure roller and capstan to the recorder. These screws tighten when turned clockwise. When tightening the capstan and pressure roller screws, use only the fingers, never any tools. The longest of the knurled screws is for the bottom or capstan shaft.

To Record From Microphone —

1. Secure the line cord to the prongs provided at the rear of the case and plug the line cord into a 110 volt, 60 cycle AC outlet. Then connect the microphone cable to the connector marked "Mike", also at the rear of the unit.

2. After selecting speed, load the recorder with

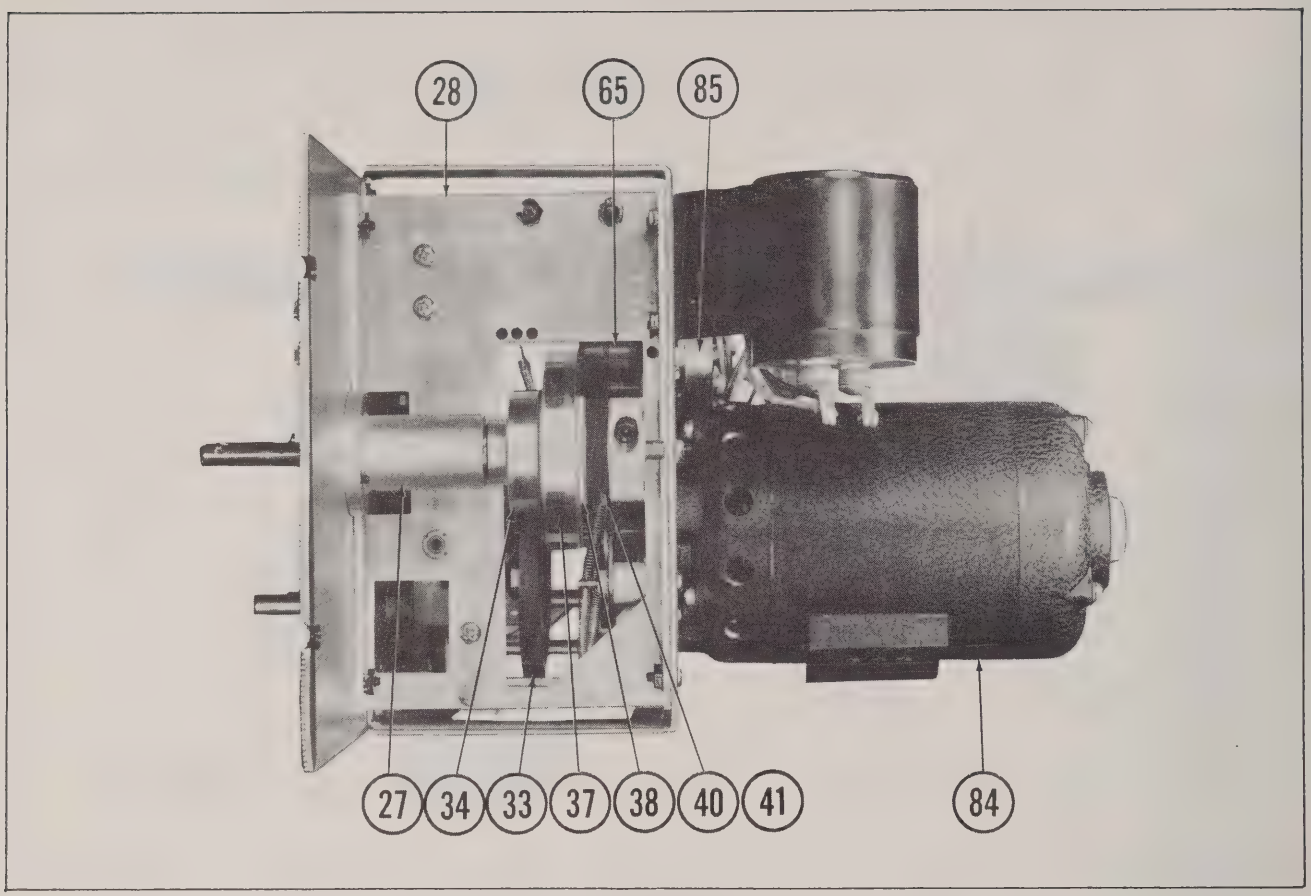

FIGURE 3

tape as described under "Threading The Tape".

3. Turn the "Volume" control closkwise until the unit turns "On" and allow about 30 seconds for tubes to warm up.

4. Depress the "Record" button and turn the "Control" knob to "Forward".

5. Adjust the "Volume" control to the proper recording level. Proper recording level is indicated when the needle on the Recording Level reaches zero on the peaks or loudest parts of selection being recorded.

Note: Due to the internal hook up of the amplifier, it is necessary to disconnect the microphone before recording from a tuner or phonograph.

To Erase A Recording –

Erasing of recorded material takes place automatically when new material is recorded; therefore, no special step is necessary to erase recordings before new recordings are made. However, if a portion of a recording or an entire reel of tape is to be completely erased, do so as follows:

1. Properly thread the tape on the recorder.

2. Turn the "Volume Control" knob clockwise until a click is heard. This turns the recorder on.

3. Press down on the Record button and also turn the Control knob to the Forward position. The erasing of recorded material is now in process and may be stopped at any time by turning Control knob to the "Stop" position.

To Play A Recording –

1. Thread the tape as described under "Threading The Tape".

2. Turn the On-Off-Volume control to the right and allow 30 seconds for warm up.

3. Set tape in motion by putting "Control Knob" in "Forward" position.

4. Adjust the "Volume" and "Tone" control for desired level.

To Edit And Splice Tape –

1. The tape may be edited by cutting out unwanted portions, or by joining selections into another sequence. Announcements may be inserted between selections, etc. Unused sections of tape can be spliced together for re-use.

(a) Cut tape at 60^{o} angle with an overlap so ends will line up. (Cutting tape at 60^{o} angle will eliminate detection of splice on recording).

(b) Align both ends of tape, with glossy side up.

(c) Cover aligned ends with splicing tape, evenly and securely.

(d) Trim off excess splicing tape. (Cut into the recording tape very slightly.) This eliminates possibility of a sticky splice.

Recording From A Turner, AM, FM, Or TV –

To make recording from a radio tuner, the tuner should be connected to the rear connector marked "Bridge Input" found on the rear panel. The connector in this case is the phone type . If the tuner has several output connections use the one marked "Detector". A well shielded, low capacity cable should be used, and all connections should be soldered.

Recording From A Radio —

To make recordings from a standard radio the voice coil leads at the speaker should be connected to the "Bridge Input" of the recorder. It should be noted that in some cases one side of the speaker is connected to ground and it may be necessary to reverse the connections for satisfactory results.

The "Bridge Input" may also be connected across the volume control of the radio. In some types this is a more satisfactory method than the voice coil method and may be left connected at all times.

Caution: Extreme care should be taken when connecting your recorder to an AC-DC type radio.

Recording From A Phonograph —

The output of most crystal pickups may be connected directly to the "Bridge Input" of your recorder, if it is equipped with a phone type plug. Thus it is possible to make copies on tape, of records, using your own record changer or phonograph turntable.

To use a phonograph with the magnetic or reluctance type pickup, it will be necessary to use a pre-amplifier.

Note: The "Bridge Input" on the recorder is automatically disconnected when the recorder is in playback mode. Therefore, it is not necessary to disconnect it at anytime.

ADJUSTMENTS

Head Alignment —

The primary purpose in head alignment is to provide the maximum frequency response. For this purpose, it is not necessary to adjust the erase head.

In general, the procedure consists of aligning the playback head with a one mil. standard alignment tape. Several definite steps should be followed and these are outlined below:

The record reproduce head is mounted to the front panel by two screws (12) in a hinge arrangement.

1. With an audio voltmeter or oscilloscope connected to the output of the playback amplifier, play back at 7 1/2" per second a portion of the alignment tape. Adjust the volume of the playback amplifier until a convenient reading is obtained.

2. Again start the tape running over the head and while observing the output reading, adjust the "Left Hand" head mounting screw for maximum reading. When this maximum has been reached, the head is properly aligned.

Alignment Of Rear Thrust Bearing Housing (85) —

Before adjusting, check alignment. With unit placed front panel down, remove the set screw (86) and look at the small ball bearing (67), to see if it is centered in the hole. If not, tap the housing in whichever direction it takes to align it. Replace bearing screw and adjust minimum of .010 inch end play.

Speed Adjustment —

If there is a variation in the speed of the unit, check these points:

1. The first item to check is the condition of the drive pucks (69) for cleanliness.

2. Check end play of the capstan flywheel (65). If it is too tight or loose, adjustment is made by loosening or tightening the adjusting set screw (86) on the rear panel.

3. Check the pressure roller pressure; this should be at least one and one-half pounds. To adjust this, either replace springs (60) or slightly stretch them.

4. The takeup reel drag should be adjusted to 6 or 8 ounce (right hand reel). This is done by loosening or tightening the lock nut (41) to desired tension.

5. The tension on the rewind reel is four ounces and this is accomplished in the same manner as adjusting the takeup tension. Tools required for the job are a one pound scale and a number 8 Allen wrench.

6. Sometimes it is necessary to adjust the pressure roller for lateral alignment. To do this, remove the pressure roller and use a hollow shafted tool to very carefully bend the pressure roller shaft either to the right or to the left until the pressure roller will not cause the tape to move either toward or away from the front panel.

Adjustment And Replacement Of Fast Forward Pucks —

Remove the takeup assembly. Remove all spring attached to the end plate (28). Remove end plate (28). The "Fast Forward Puck" (33) is now accessible for replacement. After replacing Fast Forward Puck replace end plate (28) and takeup assembly. Adjusting "Fast Forward Puck" is accomplished by the two screws on the top front end plate. The "Fast Forward Puck" should be adjusted so that it does not turn when unit is in normal forward speed. In other words, the clearance between the fast forward puck and the takenup wheel (34) should be approximately 1/16 of an inch or less. It must not touch except in Fast Forward. By the same procedure, the clearance between the drive motor shaft and Fast Forward Puck should be approximately 1/16 of an inch. Adjust the screw that holds the micro switch so that the switch turns on after the Fast Forward Puck engages the drive shaft and the take-up hub.

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Replace Drive Puck —

Turn unit upside down with the rear of the unit facing you. Loosen and remove the two function switches. Do not disconnect wiring. Remove drive puck springs (44 and 49) from side panel. Loosen and remove nuts holding drive puck. Change either one or both drive pucks as needed. Replace drive pucks and spacers. Replace nuts and tighten. Replace the two function switches and adjust if needed.

Takeup Puck Replacement And Adjustment —

Remove the takeup assembly. Remove nuts on takeup puck assembly (50). Remove assembly (50). Remove hair pin clip from puck hub and remove or change puck (46). Replace puck Assembly. Replace takeup assembly. It is necessary to adjust the stop plate located between mounting holes on the takeup puck assembly (50). This adjustment is very necessary as it determines the sequence of the takeup puck engaging the takeup friction assembly. With the recorder still up-side-down, adjust the stop plate so it just clears the takeup assembly arm when in the "Stop" position and tighten. This is accomplished with the Allen head wrench. Sometimes it is necessary to adjust the linkage adjustment so there is no lag in the switching from rewind to stop, or from forward to stop.

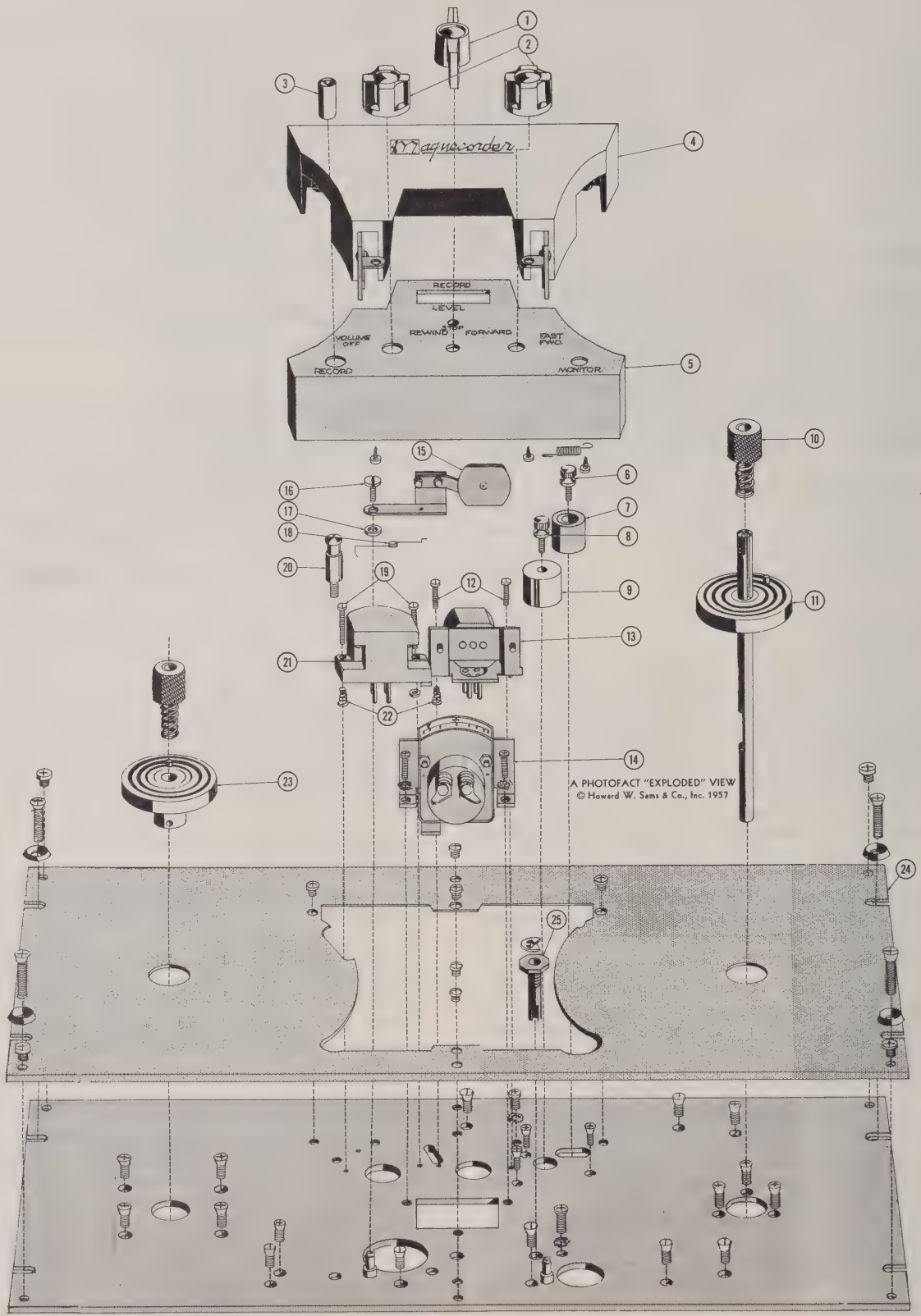


FIGURE 4A. EXPLODED VIEW OF PARTS ABOVE BASEPLATE

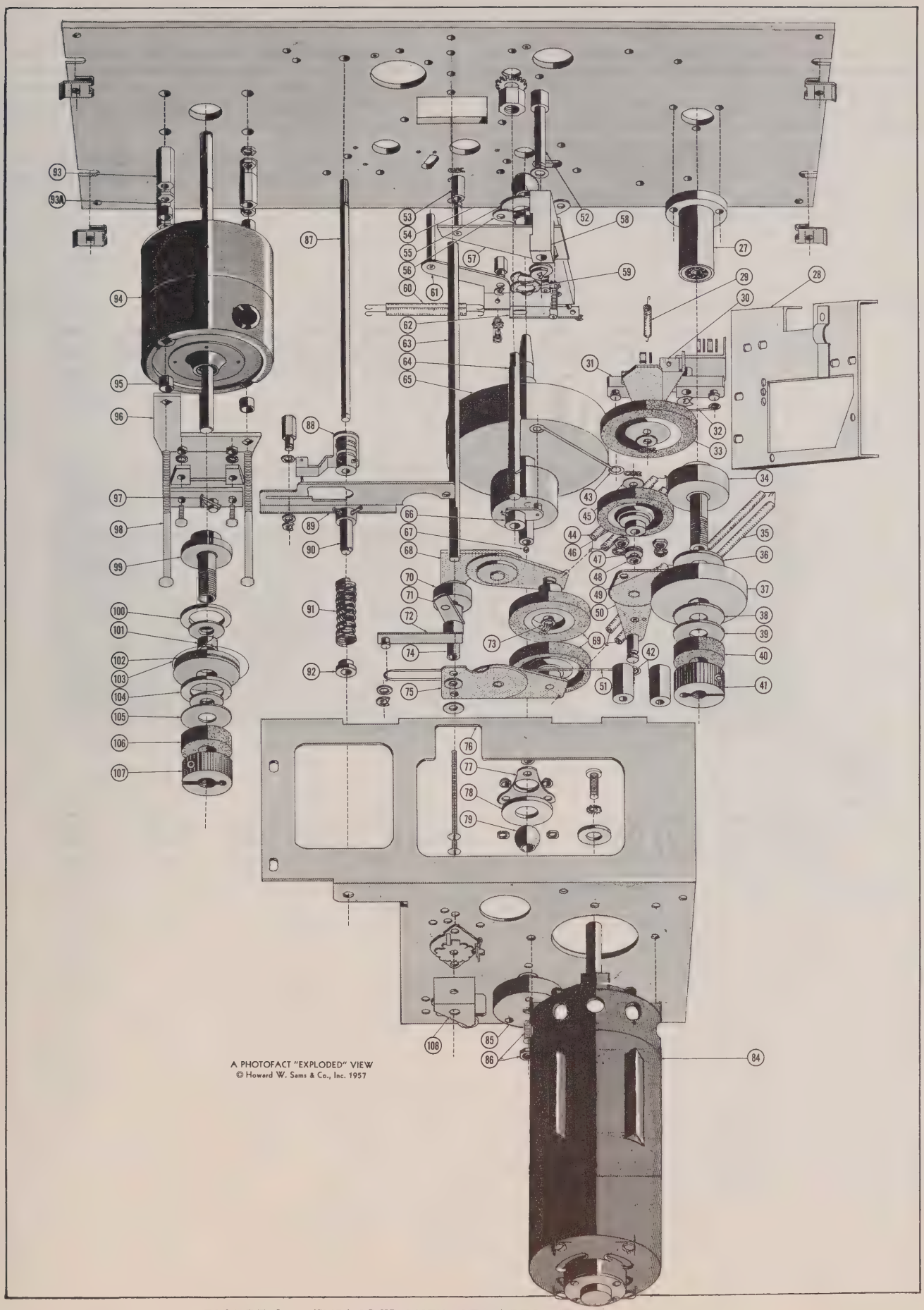


FIGURE 4B. EXPLODED VIEW OF PARTS BELOW BASEPLATE

LUBRICATION

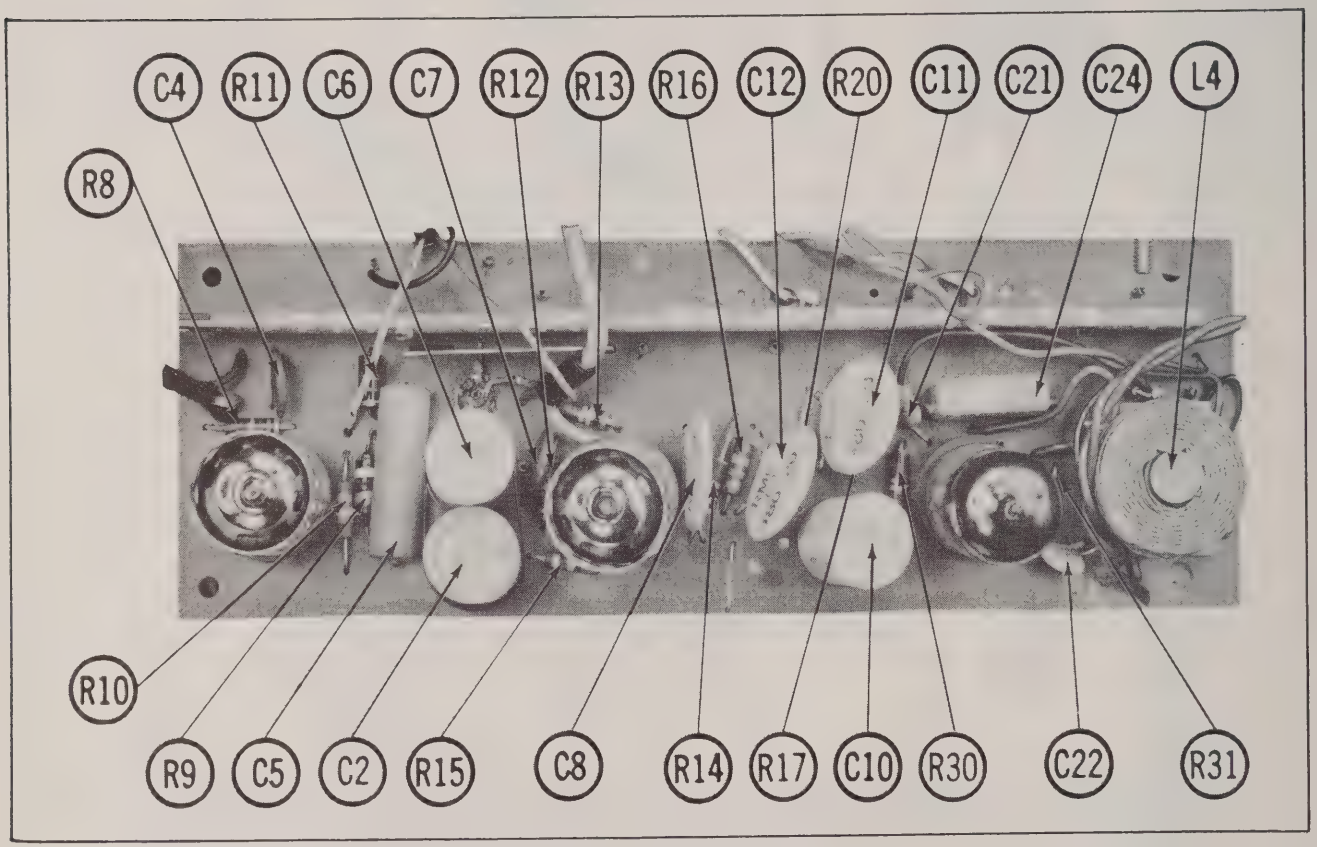
Use only a good grade of machine oil. This should be done approximately every 6 months at points on the motors.

Caution: Use only one or two drops of oil on the felts (78 and 55) for the capstan flywheel (65) bearings. It is imperative that there is no excess of oil at these points. The takeup bearings are packed with a good grade of grease and need not be touched, except during a major overhaul.

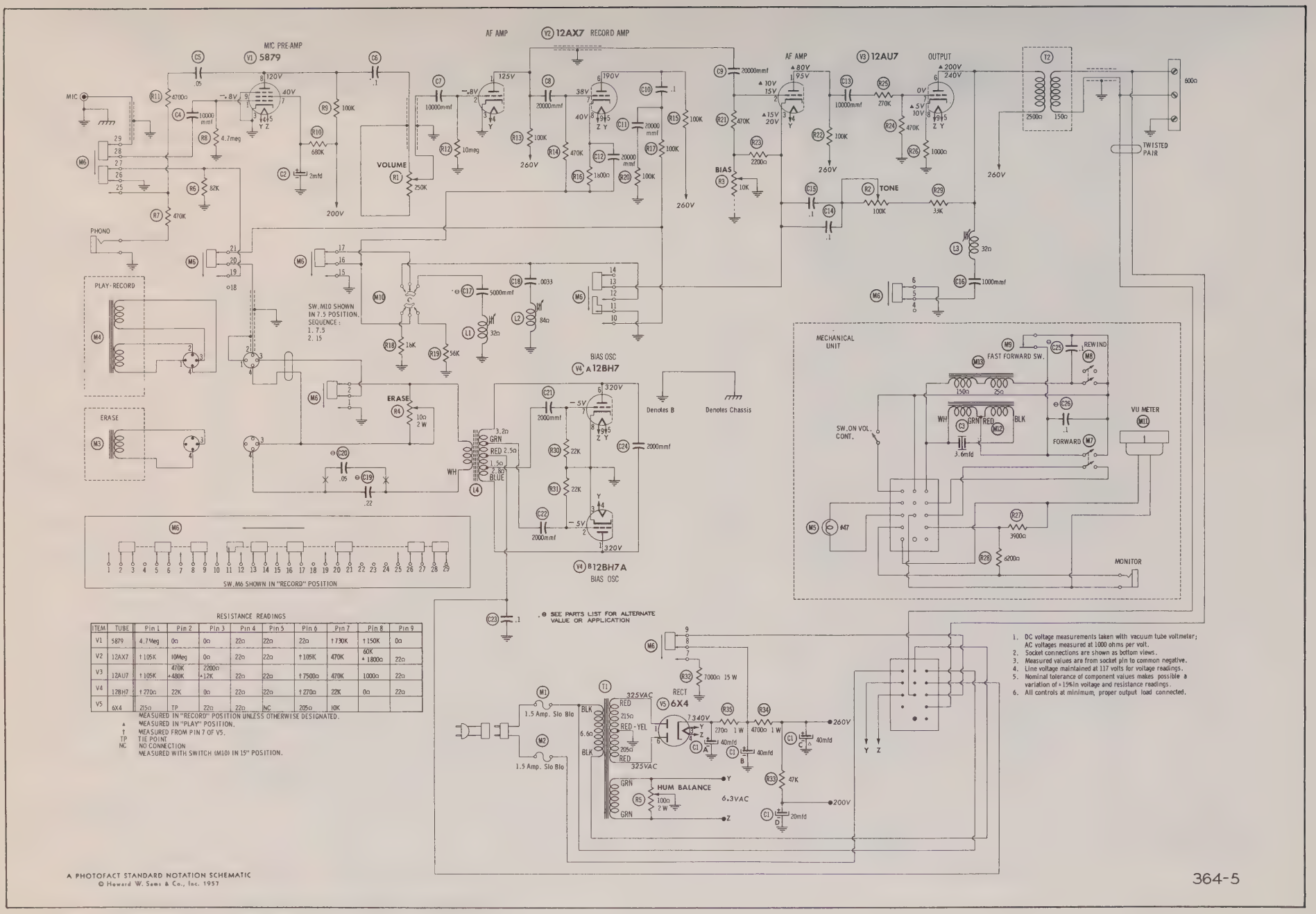
CLEANING

The record head, capstan and pressure roller are subject to an accomulation of tape coating residue, which is worn off the tape as it passes these parts. Use a soft cloth and alcohol to clean the head surfaces, capstan and pressure roller.

Caution: Do not use a brush when cleaning the recording head as this could possibly mar the laminations.



PRINTED CIRCUIT BOARD



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	5879	4.7Meg	0Ω	0Ω	22Ω	22Ω	22Ω	†730K	†150K	0Ω
V2	12AX7	†105K	10Meg	0Ω	22Ω	22Ω	†105K	470K	60K ▲1800Ω	22Ω
V3	12AU7	†105K	470K ▲480K	2200Ω ▲12K	22Ω	22Ω	†7500Ω	470K	1000Ω	22Ω
V4	12BH7	†270Ω	22K	0Ω	22Ω	22Ω	†270Ω	22K	0Ω	22Ω
V5	6X4	215Ω	TP	22Ω	22Ω	NC	205Ω	10K		

MEASURED IN "RECORD" POSITION UNLESS OTHERWISE DESIGNATED.
▲ MEASURED IN "PLAY" POSITION.
† MEASURED FROM PIN 7 OF V5.
TP TIE POINT
NC NO CONNECTION
MEASURED WITH SWITCH (M10) IN 15" POSITION.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

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364-5

MAGNECORD
MODEL S-36B

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	Mix-Play Preamplifier	5879	
V2	AF Amp.-Record Amp.	12AX7	
V3	AF Amp. Output	12AU7	
V4	Bias - Mult.	12BH7	
V5	Rectifier	6X4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	MAGNECORD PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	▬40	450	23X41	AFH4-18-45	CO350	FP377	TMQ-120	T-170	R2382 *
B	■40	450			BR2045	TC75		FM-4520	
C	▲40	450							
D	20	450							
C2	2	350	23X36	PRS450V2	BR245	TC60	TD-2-450	MT-4504	TVA-1701
C3	3.6	330VAC		RR642	CRX3040	RP-3304			

* Non-catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	MAGNECORD PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C4	10000		27X24	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C5	.05	400	22X40	BPD-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C6	.1	400	22X15	P488N-1	DF-104	BC6P1J		ACE401	4SE-P10	
C7	10000		27X24	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C8	20000		27X28	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C9	20000		27X28	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C10	.1	400	25X15	P488N-1	DF-104	BC6P1J		ACE401	4SE-P10	
C11	20000		27X28	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C12	20000		27X28	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C13	10000		27X24	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C14	.1	400	22X15	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C15	.1	400	22X15	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C16	1000		27X29	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C17	5000			BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	Note 1
C18	.0033	400	27X23	BPD-0033	D6-332	CUB6D33	GP-3300	GEM-6233	4TM-D33	
C19	.22	400		P488N-22		CUB4P22		GEM-4022	4TM-P22	Note 2
C20	.05	200		BPD-05	DF-503	CUB2S5		GEM-415	2TM-S5	Note 3
C21	2000		27X27	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C22	2000		27X27	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C23	.1	400	25X15	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C24	2000		27X27	BPD-002	DD-202	1R5D2	ED-002	MC457	1FM-22	
C25	.1	600		P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	Note 3
C26	.1	600		P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	Note 3

Note 1. Some versions use a 500MMF in this application.
Note 2. Some versions use a .33MFD @ 220V (Part #22X67) in this application.
Note 3. Not used in some versions.

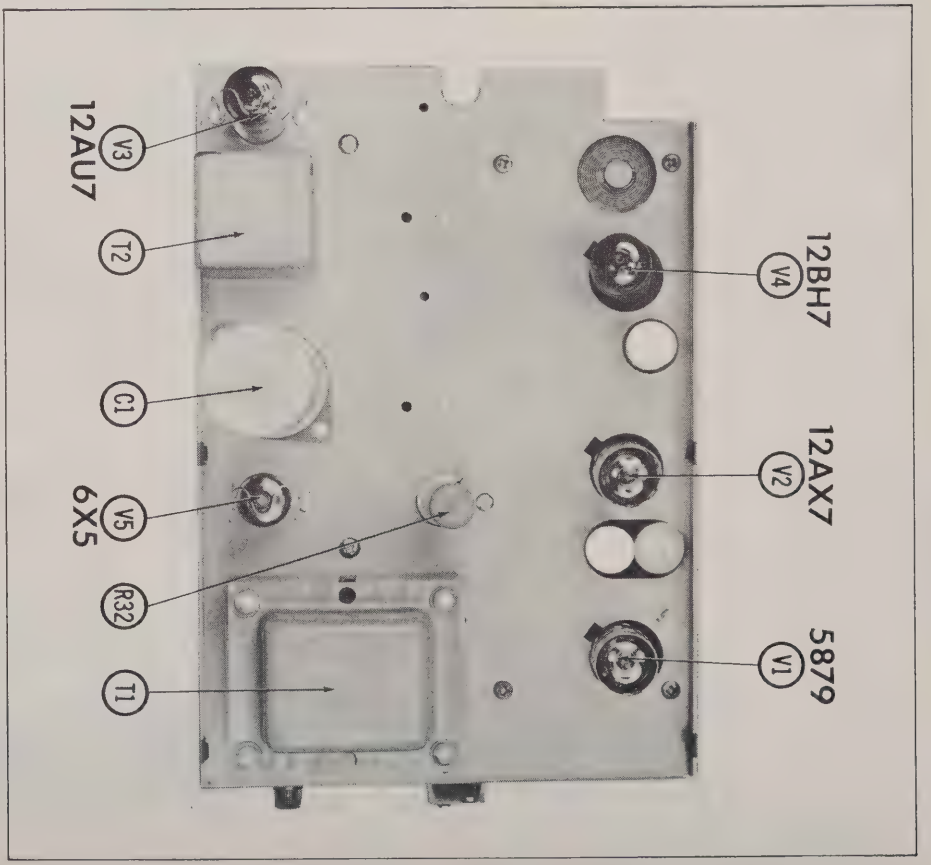
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	MAGNECORD PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	250K	1/2	14X47					Volume, Record & Playback
B	Switch							
R2A	100K	1/2	14X46	B-40	A47-100K-S	Q11-128	U41	Tone Compensation
B	Shaft			Not Req.	FKS-1/4	RQ	Not Req.	
R3A	10K	1/2	14X45	B-14	A47-10K-S	Q11-116	U20	Bias Adjustment
B	Shaft			Not Req.	FKS-1/4	RQ	Not Req.	
R4	10Ω	2	14X44					Erase Amplitude-wire wound
R5	100Ω	2	14X43					Hum Balance-wire wound

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	MAGNECORD PART No.	IRC PART No.	NOTES
R6	82K		11X105	BTS-82K	
R7	470K		11X4	BTS-470K	
R8	4.7Meg		11X142	BTS-4.7Meg	
R9	100K		11X9	BTS-100K	
R10	680K		11X25	BTS-680K	
R11	4700Ω		13X19	BTS-4700	
R12	10Meg		11X115	BTS-10Meg	
R13	100K		11X9	BTS-100K	
R14	470K		11X4	BTS-470K	
R15	100K		11X9	BTS-100K	
R16	1800Ω 5%		11X64	BTS-1800 5%	
R17	100K		11X9	BTS-100K	
R18	18K		11X96	BTS-18K	
R19	56K		11X126	BTS-56K	
R20	100K		11X9	BTS-100K	
R21	470K		11X4	BTS-470K	
R22	100K		11X9	BTS-100K	
R23	2200Ω		11X97	BTS-2200	
R24	470K		11X4	BTS-470K	
R25	270K		11X6	BTS-270K	
R26	1000Ω		11X99	BTS-1000	
R27	3900Ω		13X21	BTS-3900	
R28	8200Ω		11X153	BTS-8200	
R29	33K		11X27	BTS-33K	
R30	22K		11X10	BTS-22K	
R31	22K		11X10	BTS-22K	
R32	7000Ω	15	12X49	2D-7000	
R33	47K		11X17	BTS-47K	
R34	4700Ω	1	11X98	BTA-4700	
R35	270Ω	1	11X174	BTA-270	



PARTS LIST AND DESCRIPTIONS (Continued)

COILS

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MAGNECORD PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Equalizer Coil	31A45				8-16 Millihenries
L2	Equalizer Coil	31X46				42-83 Millihenries
L3	Equalizer Coil	31A45				8-16 Millihenries
L4	Bias Oscillator	31A6				

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	MAGNECORD PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @ 1A	560VCT @ .052A	6.3V @ 2.25A		32B27	P9215	P-3052 ①	PM8420	22R02 ②	R-10B ②

① Tape 5V filament winding.
② Tape 5V filament winding, tape center tap on 6.3V filament winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	MAGNECORD PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	15K	600Ω	32X39				22S59 ①		① Drill new mounting holes.

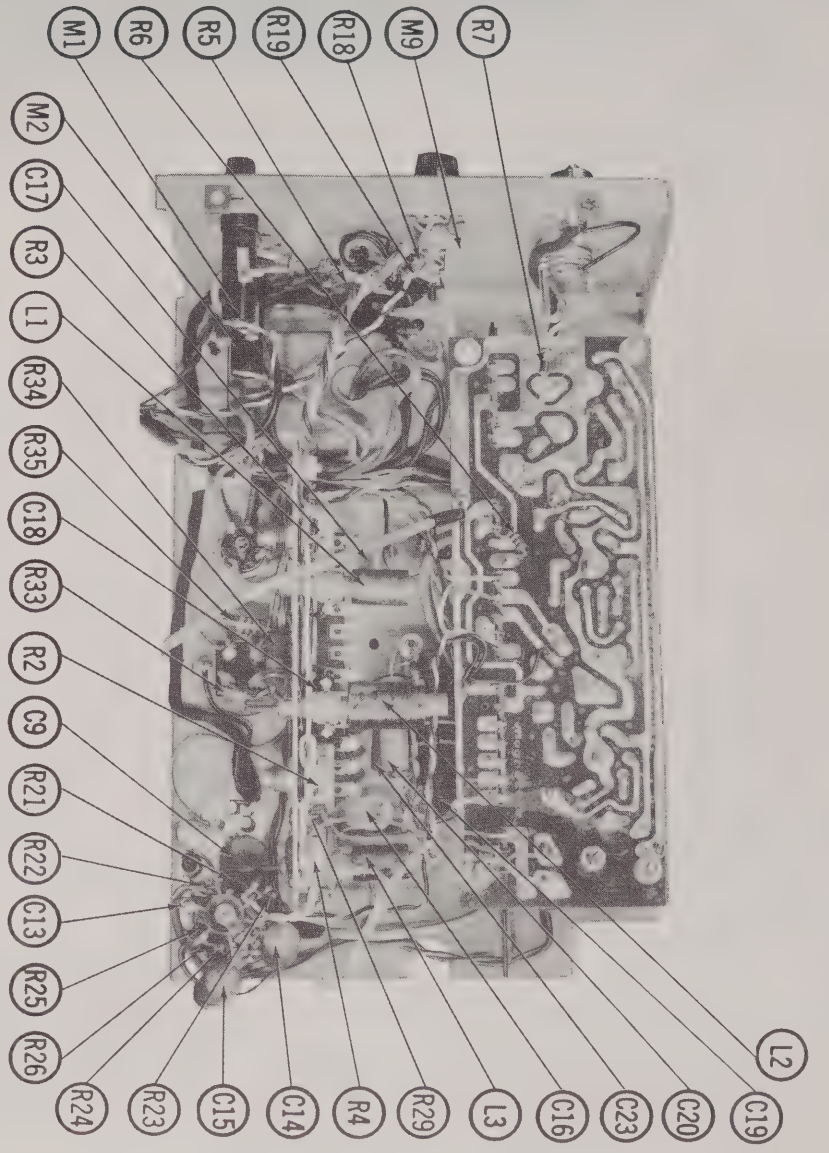
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MAGNECORD PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	1½A 125V S/B		53X5	31301.5 (3AG 1½A S/B)	342001	MDL 1½A	HKP
M2	3AG	1½A 125V S/B		53X5	31301.5 (3AG 1½A S/B)	342001	MDL 1½A	HKP

MISCELLANEOUS

ITEM No.	PART NAME	MAGNECORD PART No.	NOTES
M3	Erase Head	91A17	
M4	Record Playback Head	91A1759	
M5	Dial Light	41X23	#47 Type
M6	Switch		Record-Play (29 Pole)
M7	Switch	43A12	Record-Play, Slide type (DPDT)
M8	Switch	43A12	Rewind, Slide Type (DPDT)
M9	Switch	91A1060	Fast Forward, micro type
M10	Switch	43X127	Tape Speed, wafer type (6PDT)
M11	Meter	46B4	V. U.
M12	Motor	35C5	Drive
M13	Motor	91C892	Rewind
	Knob	87A33	Main Control
	Knob	87A32	Record Interlock
	Knob	87A31	Fast forward

CHASSIS—BOTTOM VIEW



MECHANICAL PARTS LIST

Ref. No.	Part No.	Description
1	87A33	Main Control Knob
2	87A31	Fast Forward Knob & On-Off Volume Knob
3	87A32	Record Interlock Knob
4		Upper Escutcheon
5		Lower Escutchion
6	61-4K5	Knurled Screw
7	91A15	Pressure Roller $7\frac{1}{2}$ IPS
8	61-4K6	Knurled Screw
9	75A15	Capstan $7\frac{1}{2}$ IPS
10	91A1731	Retainer, Reel
11	91A725	Takeup and Spindle Shaft
12	61-2F1. 8	Head Adjust Record/ Playback Screws
13	91A1759	Record/ Playback Head
14	46B4	Meter, V. U.
15	91A1689	Head Shield Assembly
16	75A382	Shoulder Screw
17	71A576	Spacer Washer
18	77A67	Head Shield Lifter Spring
19	61-2F1. 8	Erase Head Adjust Screws
20	75A401	Tape Bar Guide
21	91A17	Erase Head
22	77A25	Head Adjust Springs
23	91A1723	Rewind Reel Flange
24	71C572	Matte Panel
25	75A37	Hi Forward Sleeve
26	91C1753	Front Panel
27	91A52	Takeup Assembly Housing
28	91B1736	Fast Forward Side Panel
29	77A35	Fast Forward Spring
30	91A1575	Puck Arm Assembly
31		Part Of Item 30
32		Puck Arm Linkage
33	91X132	Fast Forward Puck
34	91A36	Takeup Hub
35	7 A4	Spring (2 req.)
36	63A9	Felt Washer
37	91A38	Takeup Wheel
38	63A9	Felt Washer
39	63A10	Brass Washer
40	63A11	Sponge Washer
41	91A70-10	Lock Nut
42	75A44	Takeup Puck Plate Spacer
43		Puck Arm Linkage
44	77A4	Spring (2 req.)
45	63A17	Fiber Washer
46	91A27	Takeup Puck
47	63X16	Felt Washer
48	63A17	Fiber Washer
49	63A19	Spring (2 req.)
50	91A1229	Takeup Puck Plate Assembly
51		Takeup Puck Plate Assembly Linkage
52	76A91	Pressure Arm Shaft
53	74A13	Cam Follower
54	74A21	Capstan Front Bearing
55	63A8	Oil Retaining Washer
56	78A22	Bearing Retainer
57	91A214	Pressure Arm Plate
58	91A1683	Pressure Arm Assembly
59	63X98	Spring Washer
60	77A6	Pressure Roller Spring (2 req.)
61	91A1711	Tape Lifter Bar Assembly
62	71A70	Head Shield Spring
63	43B109	Switch Assembly Detent
64	91A1687	Control Arm Shaft
65	91A765	Capstan Flywheel Assembly
66		Cam Part Of Control Arm Shaft (64)
67	78X28	Thrust Bearing
68	91A216	Drive Puck Plate Assembly
69	91A86	Drive Puck
70	74A66	Pressure Roller Cam
71	91A1684	Switch Actuator Assembly
72	91A1685	Actuator Arm Assembly
73	63A17	Fiber Washer
74	75A289	Drive Puck Spacer (2 req.)
75	91A216	Drive Puck Plate Assembly
76	71E569	Rear Panel
77	78A22	Bearing Rear Retainer
78	63A8	Oil Retaining Washer
79	74A21	Capstan Rear Bearing
84	35C5	Drive Motor
85	75A30	Thrust Bearing Housing
86	61A18 & 62-25H720	Thrust Bearing Set Screw & Nut
87	76A89	Switch Actuator Shaft
88	91A1712	Actuator Arm Switch Assembly
89	71B564	Switch Actuator Slide
90	75A388	Spring Stop
91	77A68	Record Switch Return Spring
92	75A400	Seat Spring
93	91A918	Bumper
93A	75A282	Spacer
94	91C892	Rewind Motor
95	75A283	Pawl Plate Spacer
96	72B169	Pawl Bracket Plate
97	91A729	Pawl Assembly Plate
98		Supplied with Rewind Motor
99	91A43	Rewind Hub
100	63A9	Felt Washer
101	74A70	Ratchet Bearing
102	75A86	Ratchet
103	77A2	Rewind Spring
104	63A9	Felt Washer
105	63A10	Brass Washer
106	63A11	Sponge Washer
107	91A70-10	Lock Nut
108	91B1697	Cam & Roller Assembly

PROPERTY OF
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3924 MEADE ST.
DENVER, COLORADO

MOTOROLA MODELS
6P34E, S (Ch. HS-562)

MOTOROLA MODELS
6P34E, S (Ch. HS-562)

TRADE NAME	Motorola Models 6P34E, 6P34S (Ch. HS-562)
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois
TYPE SET	Three Power Portable AM Receiver
TUBES (Five)	Types 1T4 RF Amplifier, 1R5 Converter, 1U4 IF Amplifier, 1DN5 Det.-AVC-AF Amp., 3V4 Output
POWER SUPPLY	110-120 Volts AC-DC (Or) 9 Volts DC "A" Supply & 90 Volts DC "B" Supply
RATING	.15 Amp. @ 117 Volts AC (Or) 60MA @ 9 Volts DC & 7MA @ 90 Volts DC
TUNING RANGE-BROADCAST	535KC-1620KC

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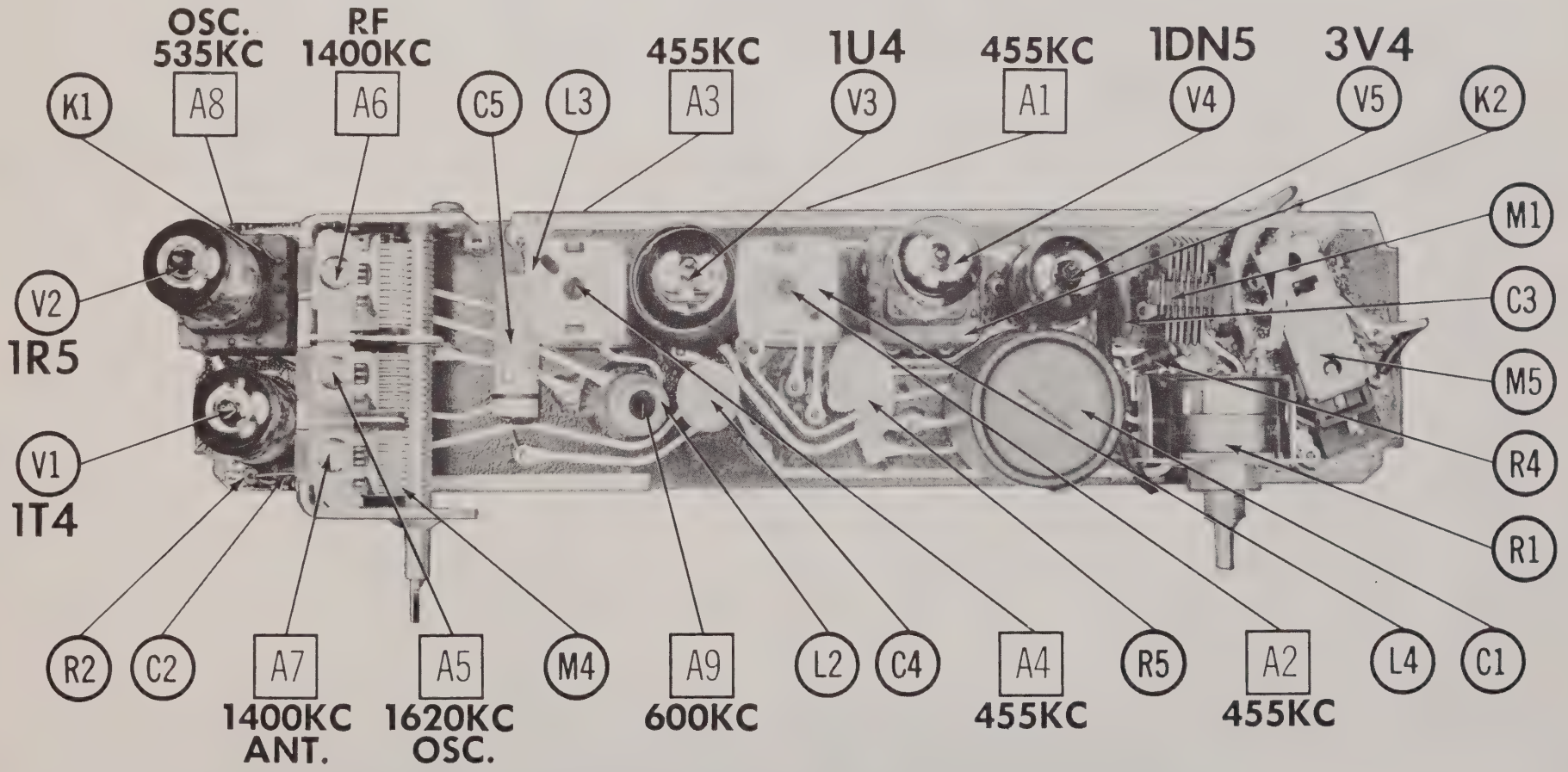


CHASSIS-TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	1T4	
V2	Converter	1R5	
V3	IF Amplifier	1U4	
V4	Det. -AVC-AF Amplifier	1DN5	
V5	Output	3V4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	■80	150	23B633167	AFH3-64-65					R2431 *
B	▲60	150							
C	250	10							

* Non-catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2	150		21R410112	BPD-00015	DD-151	L10T15	ED-150	UC-5315	5GA-T15	
C3	2000		21K633268	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C4	.1	200	8K124831		DF-104	BC2P1J		ACE401	2SE-P1	
C5	.02	400	8R121566	BPD-02	DF-203	CUB4S2		GEM-412	4TM-S2	
C6	.05	600	8K125139	BPD-05	DF-503	CUB6S5		GEM-615	6TM-S5	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1	1Meg	½	18B635402					Volume & Switch

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	MOTOROLA PART No.	IRC PART No.	
R2	2.2Meg		6R3927	BTS-2.2Meg	
R3	3.3Ω		17K485412		
R4	820Ω		6R6269	BTS-820	
R5	2000Ω 5%	6	17B633148		
R6	150Ω		65A633275		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	10.4 KΩ	3-4Ω	25K637227	Z1117	A-2932	A-3879		S-11X	

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	4"	PM	3-4Ω	50C637225①	4A07	① Includes T1

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Loop Stick	1V637827				Includes Handle Assembly, Model 6P34E
	Loop Stick	1V637830				Includes Handle Assembly, Model 6P34S
L2	RF Coil	24B635644				
L3	Input IF	24K635586	16-6780	BC-356	13-PC1	
L4	Output IF	24K635587	16-6780	BC-357	13-PC2	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MOTOROLA PART No.	REPLACEMENT DATA
K1	Converter Network	150,000MMF, 10000MMF, 100K, 680Ω, 18K, Osc. Coil	51C637010	
K2	Audio Network	2000MMF, 120MMF, 47000MMF, 10000MMF, 120MMF, 1000MMF, 3.3Meg, 6.8Meg, 3.3Meg, 3.3Meg, 1Meg, 680Ω, 270Ω	51C637185	

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA					NOTES
	CURRENT (Measured)	MOTOROLA PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	
M1	.058A	48K631295	1386	RS065	6S65	65	

BATTERIES

ITEM No.	VOLTAGE	MOTOROLA PART No.	REPLACEMENT DATA								NOTES
			BURGESS		EVEREADY		MALLORY		RAY-O-VAC		
			"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	
M2	9		D6		276		M-1603		1603		
M3	90			P60		479		M-214		214	

MISCELLANEOUS

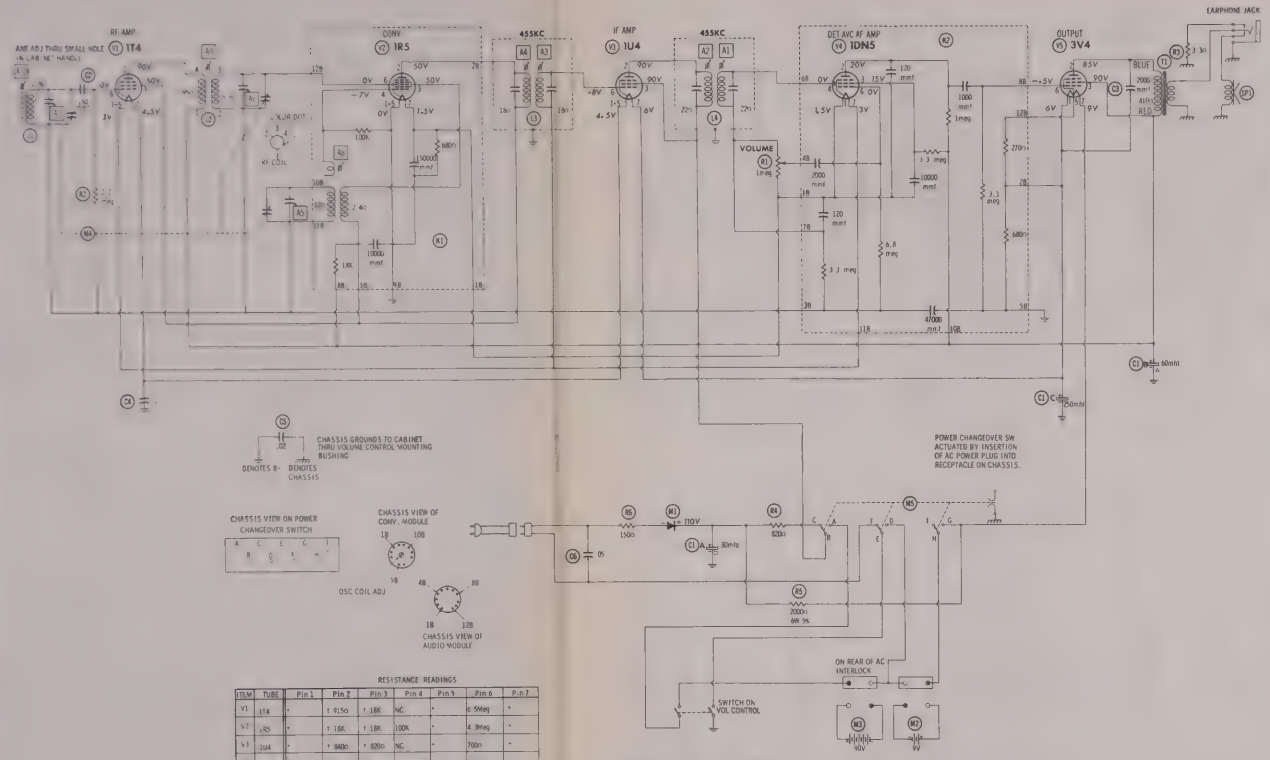
ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M4	Tuning Gang	19C635279	3 Gang
M5	Switch	40B635263	Power Changeover - Slide Type
	Printed Panel	84B637690	(Include Letter After Part Number)
	Knob	36C636976	Dial Scale
	Knob	36C636968	Tuning, Charcoal, Model 6P34E
	Knob	36K637842	Tuning, Brown, Model 6P34S
	Knob	36B636999	Volume, Charcoal, Model 6P34E
	Knob	36K37843	Volume, Brown, Model 6P34S
	Cabinet	1V637313	Navy, Model 6P34E
	Cabinet	1V637319	Suntan, Model 6P34S
	Handle Ass'y.	1V637827	Model 6P34E (Includes L1)
	Handle Ass'y.	1V637830	Model 6P34S (Includes L1)
	Earphone Jack	9K636826	

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Loop should be maintained in the same relative position to chassis as when the receiver is in cabinet.
Use isolation transformer, if available. If not, connect a .1MFD capacitor in series with low side of signal generator and B-.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to pin 6 (grid) of 1R5 (V2). Low side to B-.	455KC (400∿ Mod.)	Tuning gang fully open.	Across voice coil	A1, A2 A3, A4	Adjust for maximum output.
2.	"	"	1620KC	"	"	A5	"
3.	"	High side to pin 6 (grid) of 1T4 (V1). Low side to B-.	1400KC	Tune to 1400KC signal.	"	A6	"
4.		Loop	"	"	"	A7	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Adjustment of A7 to be made with chassis installed in cabinet.
	The following steps are not necessary unless osc., RF or ant. cores have been tampered with or there has been a replacement of associated components.						
5.	.1MFD	High side to pin 6 (grid) of 1R5 (V2). Low side to B-.	1620KC	Tuning gang fully open.	Across voice coil	A5	Adjust for maximum output.
6.	"	"	535KC	Tuning gang fully closed.	"	A8	Adjust for maximum output. Repeat step 5 & 6 until required. Range is covered making, step 5 the last adjustment.
7.	.1MFD	High side to pin 6 (grid) of 1T4 (V1). Low side to B-.	1400KC	Tune to 1400KC signal.	"	A6	Adjust for maximum output.
8.	"	"	600KC	Tune to 600KC signal.	"	A9	Adjust for maximum output. Repeat steps 7 & 8 until no further improvement is noted, making step 7 the last adjustment.
9.		Loop	1400KC	Tune to 1400KC signal.	"	A7	Fashion loop several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Adjustment of A10 to be made with chassis installed in cabinet.
10.		"	600KC	Tune to 600KC signal		A10	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Adjustment of A10 to be made with chassis installed in cabinet. Repeat steps 9 and 10 until no further improvement is noted, making step 9 the last adjustment.



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	1T4	*	↑ 915Ω	↑ 18K	NC	*	6.5Meg	*
V2	1R5	*	↑ 18K	↑ 18K	100K	*	4.3Meg	*
V3	1U4	*	↑ 840Ω	↑ 820Ω	NC	*	700Ω	*
V4	1DN5	*	↑ 1Meg	↑ 3.3Meg	1Meg	TP	11Meg	*
V5	3v4	*	↑ 410Ω	↑ 820Ω	NC	*	3.3Meg	*

* DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE
↑ MEASURED FROM OUTPUT OF M1.
NC NO CONNECTION.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum; no signal applied for voltage measurements.

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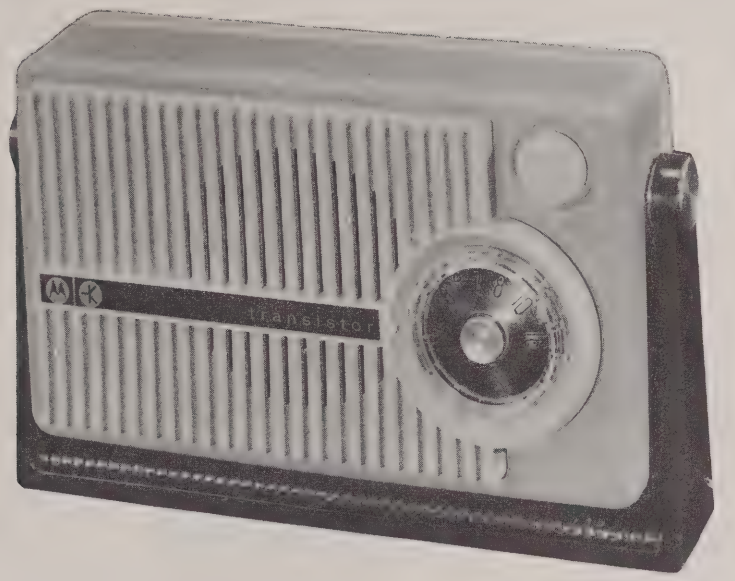
MOTOROLA MODELS 6X31C, N, R, 6X32E (Ch. HS-563, HS-564)

MOTOROLA MODELS 6X31C, N, R, 6X32E (Ch. HS-563, HS-564)



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3924 MEADE ST.
DENVER, COLORADO

MOTOROLA MODELS 6X31C, N, R, 6X32E (Ch. HS-563, HS-564)

TRADE NAME	Motorola Models 6X31C, 6X31N, 6X31R (Ch. HS-564), 6X32E (Ch. HS-563)
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Ill.
TYPE SET	Battery Operated Portable AM Transistorized Receiver
POWER SUPPLY	6 Volts DC
RATING	8.5 MA@ 6 Volts DC
TUNING RANGE—BROADCAST	530-1620KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1MFD	High side to ant. stator lug on tuning gang. Low side to chassis.	455KC (400~ mod.)	Tuning gang fully open	Across earphone jack	A1, A2, A3	Adjust for maximum output.
2		Loop	1620KC	"	"	A4	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3		"	1400KC	Tune to 1400KC signal	"	A5	"
	The following steps are not necessary unless oscillator coil core (A6) has been tampered with or associated components have been replaced. Set osc. trimmer (A4) 1/4 turn from tight position.						
4		Loop	535KC	Tuning gang fully closed	Across earphone jack	A6	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
5		"	1620KC	Tuning gang fully open	"	A4	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Repeat steps 4 & 5 until required range is covered, making step 5 the last adjustment.
6		"	1400KC	Tune to 1400KC signal	"	A5	Adjust for maximum output.

DISASSEMBLY INSTRUCTIONS

1. Remove volume control knob by pulling.
2. Remove screw in center of tuning knob. Remove knob.
3. Remove screw located behind tuning knob.
4. With rear cover open, turn handle at right angle to plated chassis.
5. Grasp handle close to one mounting bushing and pull out until bushing clears hole in cabinet side. Lift this side of handle and chassis slightly from cabinet.
6. Repeat step 5 for other side of handle.
7. Remove handle, chassis and speaker plate from cabinet.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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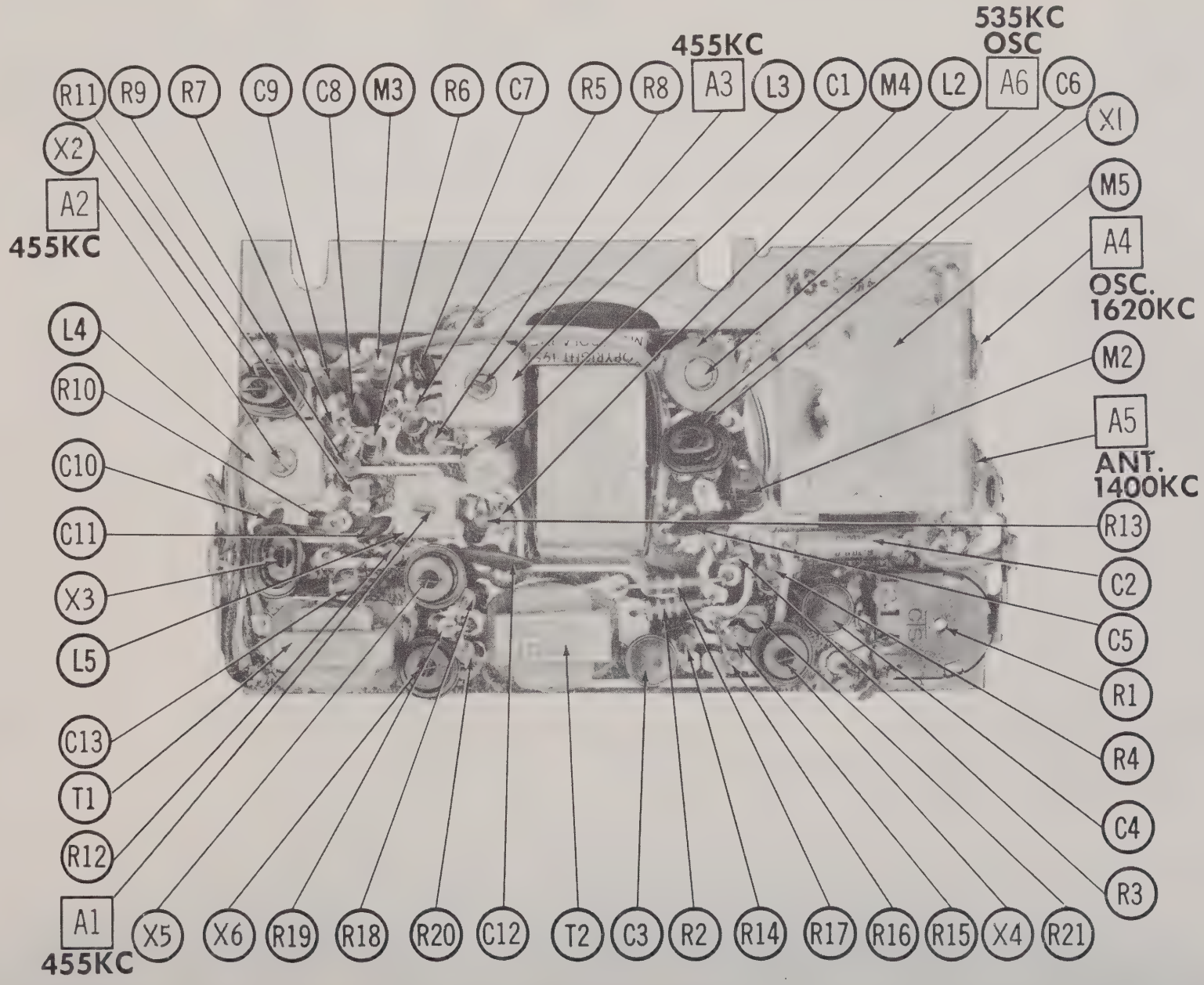


CHASSIS-TOP VIEW

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	USE	Motorola Part No.	NOTES
X1	Conv. (2N168A)	48C125233	
X2	1st. IF Amp. (2N293)	48K125236	
X3	2nd. IF Amp. (2N292)	48C125235	Note 1
X4	Driver (2N189)	48C125237	Note 2
X5	Output (2N187)	48K125230	Note 3
X6	Output (2N187)	48K125230	Note 3

Note 1. Type 2N169 may be used as an alternate (Part #48C125234).
Note 2. Type 2N190 (Part #48K125238) may also be used in Ch. HS-564. Chassis HS-563 may use type 2N191 (Part #48K125239) or type 2N192 (Part #48K125240).
Note 3. Type 2N186 (Part #48C125229) may also be used in Ch. HS-564. Chassis HS-563 may use type 2N188 (Part #48K125231) or type 2N141 (Part #48C125232). X5 and X6 must be the same type.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1	25	3	23K637758	PWE3V25	NL25-3	TT3X25			TE-1055
C2	6	10	23K636769	PWE10V5	NL6-25	TT12X5	ML6-15		TE-1202
C3	50	10	23B637402	XPP10V50	NL50-10	TT10X50			R2305 *
C4	50	10	23B637402	XPP10V50	NL50-10	TT10X50			R2305 *

* Non-catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	40000		21B635399							
C6	10000		21K635404							
C7	10000		21K635404							
C8	10000		21K635404							
C9	10000		21K635404							
C10	10000		21K635404							
C11	10000		21K635404							
C12	40000		21B635399							
C13	200000		21B637403							

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1	10000Ω	1/4	18B637419					Volume & Switch

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	MOTOROLA PART No.	IRC PART No.	
R2	33K		6R6410	BTS-33K	
R3	100K		6R6031	BTS-100K	
R4	3300Ω		6R5581	BTS-3300	
R5	1000Ω		6R6229	BTS-1000	
R6	27K		6R6434	BTS-27K	
R7	2200Ω		6R6069	BTS-2200	
R8	220Ω		6R6270	BTS-220	
R9	10K		6R6320	BTS-10K	
R10	2200Ω		6R6069	BTS-2200	
R11	100Ω		6R6326	BTS-100	
R12	470Ω		6R6090	BTS-470	
R13	1500Ω		6R6038	BTS-1500	
R14	68K		6R6074	BTS-68K	
R15	10K		6R6320	BTS-10K	
R16	220Ω		6R6270	BTS-220	
R17	2700Ω		6R5577	BTS-2700	
R18	68Ω		6R2039	BTS-68	
R19	10Ω		6R5621	BTS-10	
R20	10Ω		6R5621	BTS-10	
R21	100Ω		6R6326	BTS-100	

TRANSFORMER (DRIVER)

ITEM No.	Turns Ratio		REPLACEMENT DATA						NOTES
	PRI.	SEC.	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.5:	1	25B636770	GH113 ①②			TR-3 ①②		① Tape center tap on primary winding. ② Use original terminal board.

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	325Ω CT	13Ω	25K637642	GH119 ①			TR-16 ①		① Use original terminal board.

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	2 3/4"	PM	13Ω	50B637439		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Loop Stick	1V637463				Includes Handle, Model 6X31N
	Loop Stick	1V637447				Includes Handle, Model 6X32E
	Loop Stick	1V638158				Includes Handle, Models 6X31C & 6X31R
L2	Osc. Coil	24K637442				
L3	1st. IF	24C637482	16-9003			
L4	2nd. IF	24K637709	16-9003			
L5	3rd. IF	24K637483				

BATTERIES

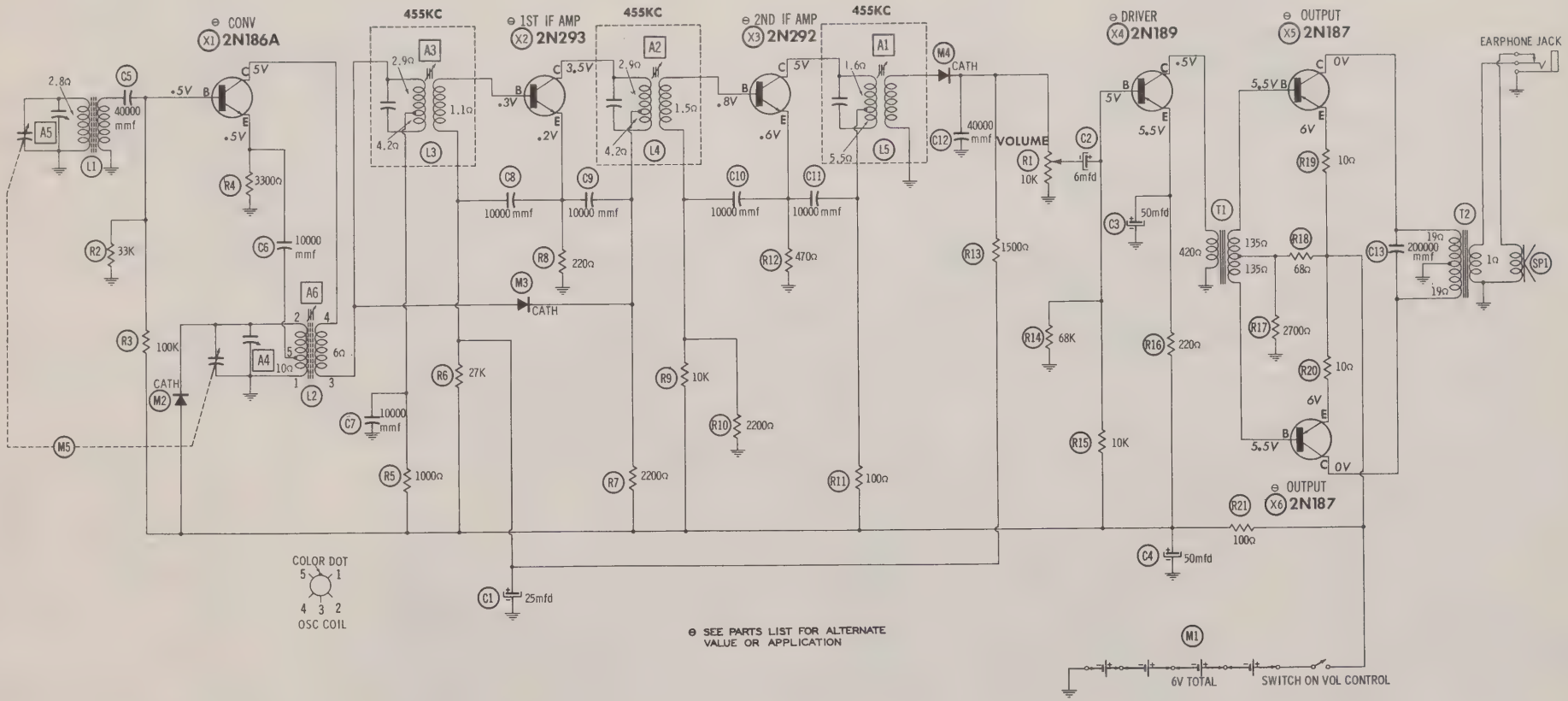
ITEM No.	VOLTAGE	MOTOROLA PART No.	REPLACEMENT DATA								NOTES
			BURGESS		EVEREADY		MALLORY		RAY-O-VAC		
			"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	
M1	6V		Z		915		M-15 or Mercury Type ZM-9		7-R		Use 4 in series

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	SYLVANIA PART No.	
M2	648	48K636691	1N60	Limiter (Pigtail)
M3	705	48K636691	1N60	Limiter (Pigtail)
M4	1N295	48K636778	1N60	Audio Det. (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M5	Tuning Cap.	19B635410	2 Gang (Ant. 9-135MMF, Osc. 5-93MMF)
	Printed Panel	84B637775	(Include letter following part number)
	Knob	36K637416	Tuning, Beige, Models 6X31C, 6X31N, 6X31R
	Knob	36C637415	Tuning, Silver, Model 6X32E
	Knob	36B637425	Volume, Beige, Models 6X31C, 6X31N, 6X31R
	Knob	1V638226	Volume, Silver, Model 6X32E
	Cabinet	16K638121	Cerulean Blue & Beige, Model 6X31C
	Cabinet	16K637375	Beige, Model 6X31N
	Cabinet	16K638120	Red & Beige, Model 6X31R
	Cabinet	16D637373	Navy Blue, Model 6X32E
	Handle Assy.	1V638158	Beige, Models 6X31C, 6X31R (Includes L1)
	Handle Assy.	1V637463	Brown, Model 6X31N (Includes L1)
	Handle Assy.	1V637447	Blue, Model 6X32E (Includes L1)
	Earphone Jack	9B633266	



1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to commom negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

TRANSISTOR RESISTANCE NOT TAKEN BECAUSE OF WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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NEWCOMB
MODEL CO-1010

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MODEL CO-1010

NEWCOMB
MODEL CO-1010

TRADE NAME	Newcomb Model CO-1010
MANUFACTURER	Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38, Calif.
TYPE SET	AC Operated 6 Channel 10 Watt Audio Amplifier
TUBES (Five)	Types 12AX7 Preamp. - AF Amp., 12AX7 AF Amp. - Phase Inv. (2) 6V6GT Output 6AX5GT Rectifier
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING .55 Amp. @ 117 Volts AC (60 Watts)

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

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PARTS LIST AND DESCRIPTIONS

NEWCOMB
MODEL CO-1010

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	Preamplifier-AF Amplifier	12AX7	
V2	AF Amplifier-Phase Inv.	12AX7	
V3	Output	6V6GT	

ITEM No.	USE	TYPE	NOTES
V4	Output	6V6GT	
V5	Rectifier	6AX5GT	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	NEWCOMB PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	▲40	475	CE-36						R2410*
B	■10	475							
C	▲10	475							
D	25	50							
C2	4	450	CE-1	PRS450V4	BR445	TC70	TD-4-450	FM-4504	TVA-1702

*Non Catalog Item

FIXED CAPACITORS

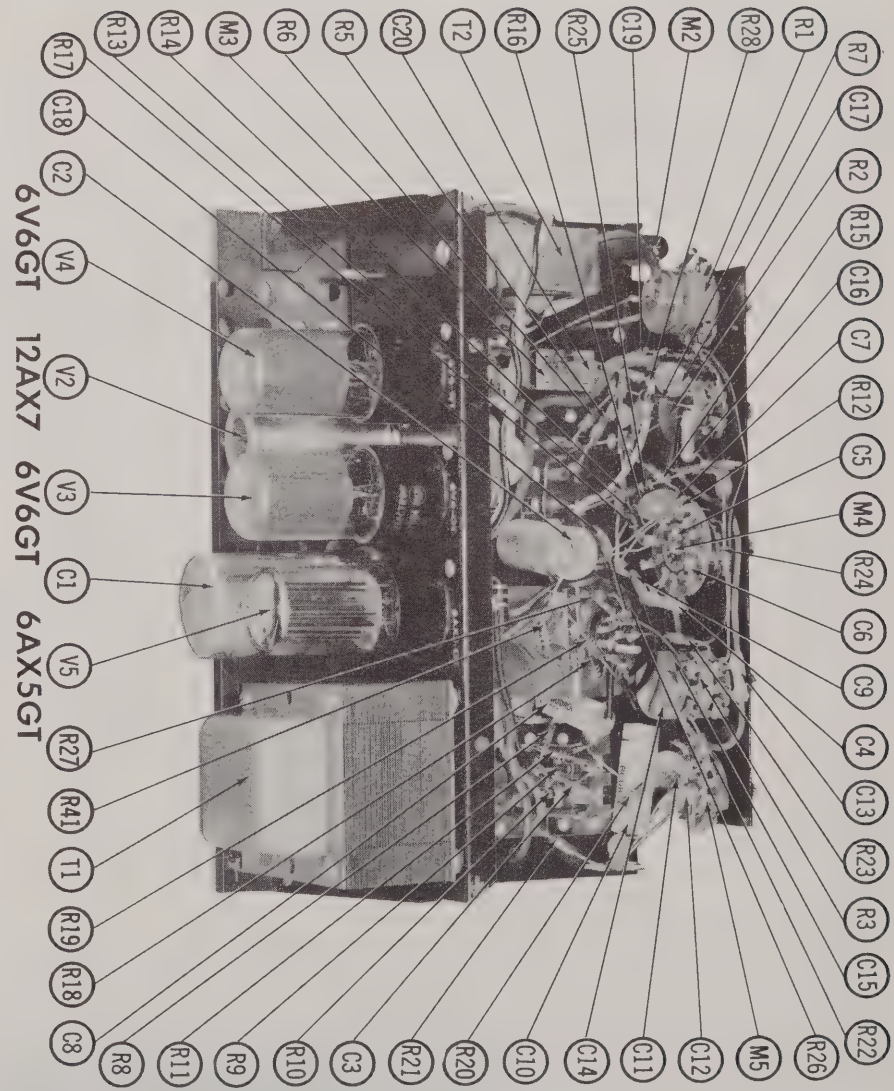
Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	NEWCOMB PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C4	350		CM-26	SI350	D6-351	LT6T35	GP-350	UC-5335	5GA-T35	
C5	100		CM-14	SI100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C6	300		CM-15	SI300	D6-301	LT6T3	GP-300	UC-533	5GA-T3	
C7	1600		CM-52	BPD-0015	DD-152	BYA10D15	ED-0015	UC-5215	5HK-D15	
C8	.022	600	CP-47	BPD-02	DD-203	CUB6S22	ED-02	GEM-6122	6TM-S22	
C9	10000		CM-32	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C10	.1	600	CP-51	P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	
C11	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C12	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C13	470		CM-25	SI470	D6-471	LT6T47	GP-470	UC-5347	5GA-T47	
C14	1500		CM-27	SI1500	D6-152	LT6D15	GP-1500	UC-5215	5HK-D15	
C15	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C16	470		CM-25	SI470	D6-471	LT6T47	GP-470	UC-5347	5GA-T47	
C17	10000		CM-32	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C18	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C19	250		CM-22	BPD-00025	DD-251	L10T25	ED-250	UC-5325	5GA-T25	
C20	10000		CM-32	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C21	10000		CM-32	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C22	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C23	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C24	20000		CM-35	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C25	100		CM-14	SI100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C26	.022	600	CP-47-1	BPD-02	DD-203	CUB6S22	ED-02	GEM-6122	6TM-S2	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	NEWCOMB PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	250K	½	RV-87-K	BT-53	A47F1-250K	Q13-130X		Loudness, Tap @ 100K
B	Shaft			Not Req.	KSS-3	Not Req.		
C	Switch			KB-1	SWE-12	76-1		
R2A	2Meg	½	RV-59-K		A47F3-2Meg	Q18-139X	UT-451	Treble, Tap @ 1, 2Meg
B	Shaft				KSS-3	Not Req.	Not Req.	
R3A	5Meg	½	RV-57-K					Bass
B	5Meg	½						Bass
R4	100Ω	2	RV-75					Hum Balance (Wire Wound)

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	NEWCOMB PART No.	IRC PART No.	
R5	560K		RR-34	BTS-560K	
R6	560K		RR-34	BTS-560K	
R7	100K		RR-27	BTS-100K	
R8	56K		RR-25	BTS-56K	
R9	68K		RR-26	BTS-68K	
R10	100K		RR-27	BTS-100K	
R11	22K		RR-21	BTS-22K	
R12	330K		RR-32	BTS-330K	
R13	1.5Meg		RR-39	BTS-1.5Meg	
R14	270K		RR-31	BTS-270K	
R15	560K		RR-34	BTS-560K	
R16	470K		RR-33	BTS-470K	
R17	820K		RR-36	BTS-820K	
R18	18Meg		RR-140	BTS-18Meg	
R19	270K		RR-31	BTS-270K	
R20	560K		RR-34	BTS-560K	
R21	560K		RR-34	BTS-560K	
R22	82K		RR-133	BTS-82K	
R23	560K		RR-34	BTS-560K	
R24	560K		RR-34	BTS-560K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	NEWCOMB PART No.	IRC PART No.	
R25	470K		RR-33	BTS-470K	
R26	18Meg		RR-140	BTS-18Meg	
R27	270K		RR-31	BTS-270K	
R28	10K		RR-18	BTS-10K	
R29	56K		RR-25	BTS-56K	
R30	18Meg		RR-140	BTS-18Meg	
R31	270K		RR-31	BTS-270K	Note 1
R32	100Ω		RR-1	BTS-100	
R33	560K		RR-34	BTS-560K	
R34	100K 5%		RR-50	BTS-100K 5%	
R35	10K		RR-18	BTS-10K	
R36	100K 5%		RR-50	BTS-100K 5%	
R37	560K		RR-34	BTS-560K	
R38	560K		RR-34	BTS-560K	
R39	1200Ω	2	RR-146	BTB-1200	
R40	300Ω 5%	2	RR-130	BTB-300 5%	
R41	56K		RR-25	BTS-56K	
R42	27K		RR-22	BTS-27K	
R43	3900Ω		RR-13	BTS-3900Ω	
R44	6.8Ω 5%	1	RR-149		

Note 1. Some Versions May Use 560K In This Application (Part #RR-34).

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	NEWCOMB PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @.55A	660VCT @.072A	6.3VAC @2.74A		TR-175		P-2951 ①		22R02 ①	

① Tape 5V Winding & Center Tap On 6.3V Winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	NEWCOMB PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	800Ω CT	16Ω Tap @ 8Ω	TR-185	Z1404					

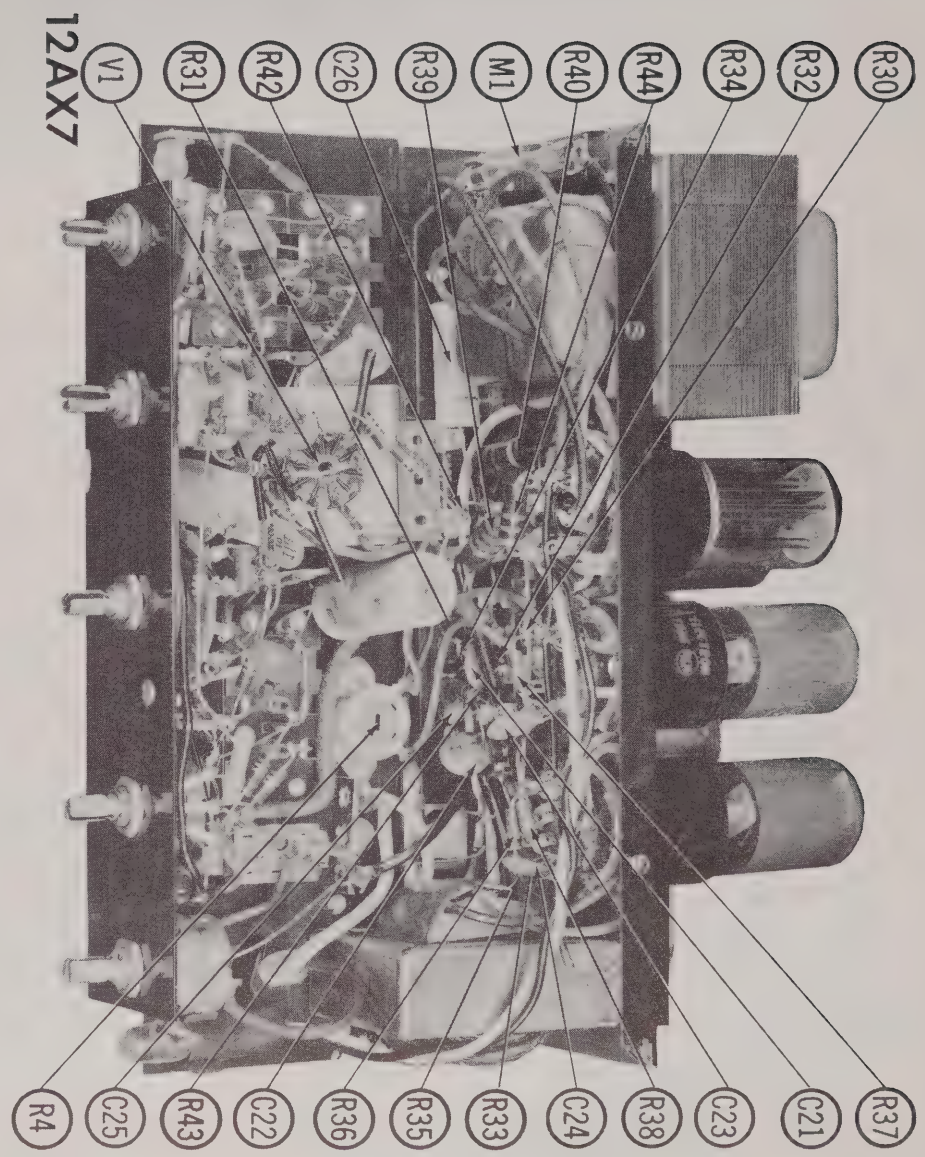
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			NEWCOMB PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	1A 250V S/B	FA-18		313001. (3AG1A) S/B	357001	MDL1	4405

MISCELLANEOUS

ITEM No.	PART NAME	NEWCOMB PART No.	NOTES
M2	Pilot Light		#47
M3	Switch	SY-5	Loudness, Slide Type (SPDT)
M4	Switch	SY-88	Record Compensation, Rotary, Wafer Type
M5	Switch	SY-90	Function Selector, Rotary Wafer Type

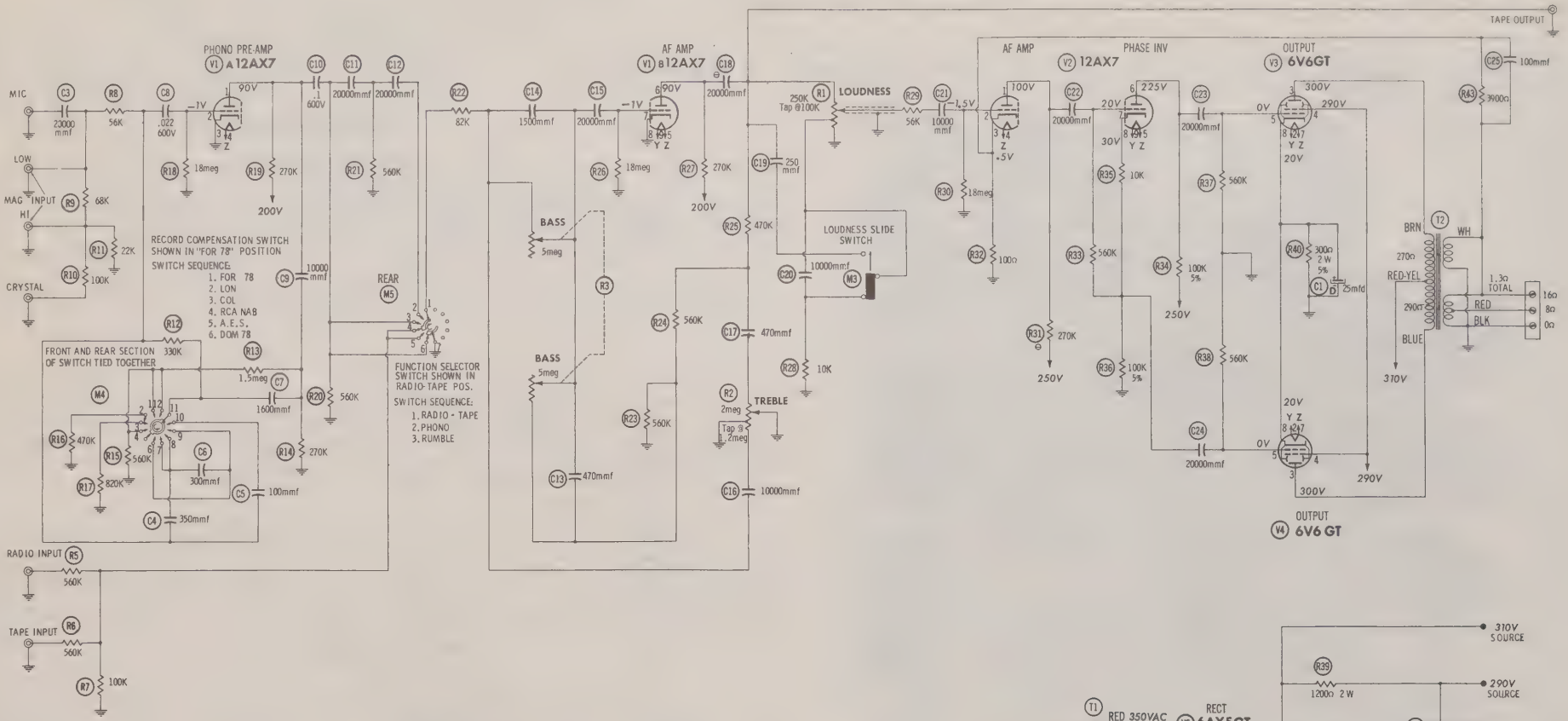
CHASSIS—BOTTOM VIEW

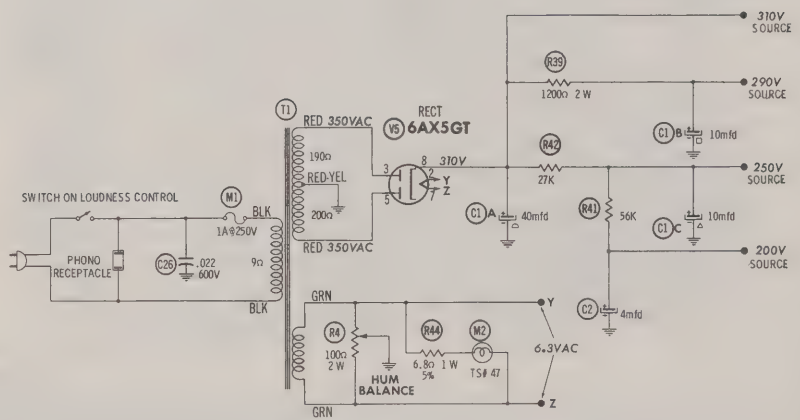


NEWCOMB MODEL CO-1010

SET 364 FOLDER 8

NEWCOMB MODEL CO-1010





RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AX7	† 325K	18Meg	0Ω	14Ω	14Ω	† 325K	18Meg	0Ω	14Ω
V2	12AX7	† 300K	18Meg	100Ω	14Ω	14Ω	† 130K	660K	110K	14Ω
V3	6V6GT	TP	14Ω	† 270Ω	† 1200Ω	560K	NC	14Ω	300Ω	
V4	6V6GT	TP	14Ω	† 290Ω	† 1200Ω	560K	TP	14Ω	300Ω	
V5	6AX5GT	TP	14Ω	190Ω	TP	200Ω	TP	14Ω	20K (MIN)	

† MEASURED FROM PIN 8 OF V5.
NC NO CONNECTION.
TP TIE POINT.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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PHILCO
MODELS E-1363, E-1763, E-1765

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

PHILCO
MODELS E-1363, E-1763, E-1765

TRADE NAME	Philco Models E-1363, E-1763, E-1765
MANUFACTURER	Philco Corp., Tioga & "C" Sts., Philadelphia, Pa.
TYPE SET	AC Operated Phono Amplifier With 4 Speed Automatic Record Changer
TUBES (Four)	Types 12AX7 AF Amplifier, (2) 6K6GT (or) 6V6GT Output, 5Y3GT Rectifier
POWER SUPPLY	105-125 Volts AC-60 Cycles RATING .65 Amp. @ 117 Volts AC (62 Watts Without Motor)

FOR SERVICE INFORMATION ON RECORD CHANGER, PHILCO MODEL M-39 — SEE PHOTOFACT SET 362 - FOLDER 6.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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PARTS LIST AND DESCRIPTIONS

PHILCO MODEL E-1363

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	AF Amplifier	12AX7	
V2	Output	6K6GT	Note 1
V3	Output	6K6GT	Note 1
V4	Rectifier	5Y3GT	

Note 1. Models E1763, E1765 use 6V6GT

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	40	450	30-2575-46	PR4-185	D0160	TCT3764	TMT-34	T-140	TVA-4742
B	20	450					TD-10-450	FM-4510	
C	10	450							
C2	10	25	45-3035-6	PRS 25V10	BBR10-25	TC22	TD-10-25	FM-0210	TVA-1204
C3	10	25	45-3035-6	PRS 25V10	BBR10-25	TC22	TD-10-25	FM-0210	TVA-1204

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA PHILCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C4	68	500	60-00685417	1464-000068		1R5Q68			MS-468	
C5	120	500	60-10125237	1464-000120		1R5T12			MS-312	
C6	.0047	600	30-4650-56	BPD-0047	D6-472	CUB6D47	GP-4700	GEM-6247	6TM-D47	
C7	.0033	400	30-4650-55	BPD-0033	D6-332	CUB6D33	GP-3300	GEM-6233	6TM-D33	Note 1
C8	.0047	400	30-4650-56	BPD-0047	D6-472	CUB6D47	GP-4700	GEM-6247	6TM-D47	
C9	.0047	600	30-4650-56	BPD-0047	D6-472	CUB6D47	GP-4700	GEM-6247	6TM-D47	
C10	.001	400	30-4650-52	BPD-001	DD-102	CUB6D1	GP-1000	GEM-621	6TM-D1	
C11	.01	400	30-4650-58	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C12	68	500	60-00685237	1464-000068		1R5Q68			MS-468	
C13	.001	400	30-4650-52	BPD-001	DD-102	CUB6D1	GP-1000	GEM-621	4TM-D1	
C14	150	500	30-1220-1	1464-00015		1R5T15			MS-315	
C15	.047	600	30-4650-62	BPD-05	DF-503	CUB6S47		GEM-6147	6TM-S47	
C16	.1	400	30-4650-47	P688N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C17	.001	1000	30-4650-86	P1088N-001	DD-102	CUB10D1	HD15-1000	GEM-1021	10TM-D1	
C18	.0022	1000	30-4650-88	P1088N-0022	DD30-222	CUB10D22	HD15-2200	GEM-10222	10TM-D22	
C19	.0022	1000	30-4650-88	P1088N-0022	DD30-222	CUB10D22	HD15-2200	GEM-10222	10TM-D22	
C20	.01	600	30-4650-58	BPD-01	DD-103	CUB6S1	GP-10000	GEM-611	6TM-S1	
C21	.01	600	30-4650-58	BPD-01	DD-103	CUB6S1	GP-10000	GEM-611	6TM-S1	

Note 1. Models E1763 & E1765 use .0068MFD in this application (Part #30-4650-57)

CONTROLS

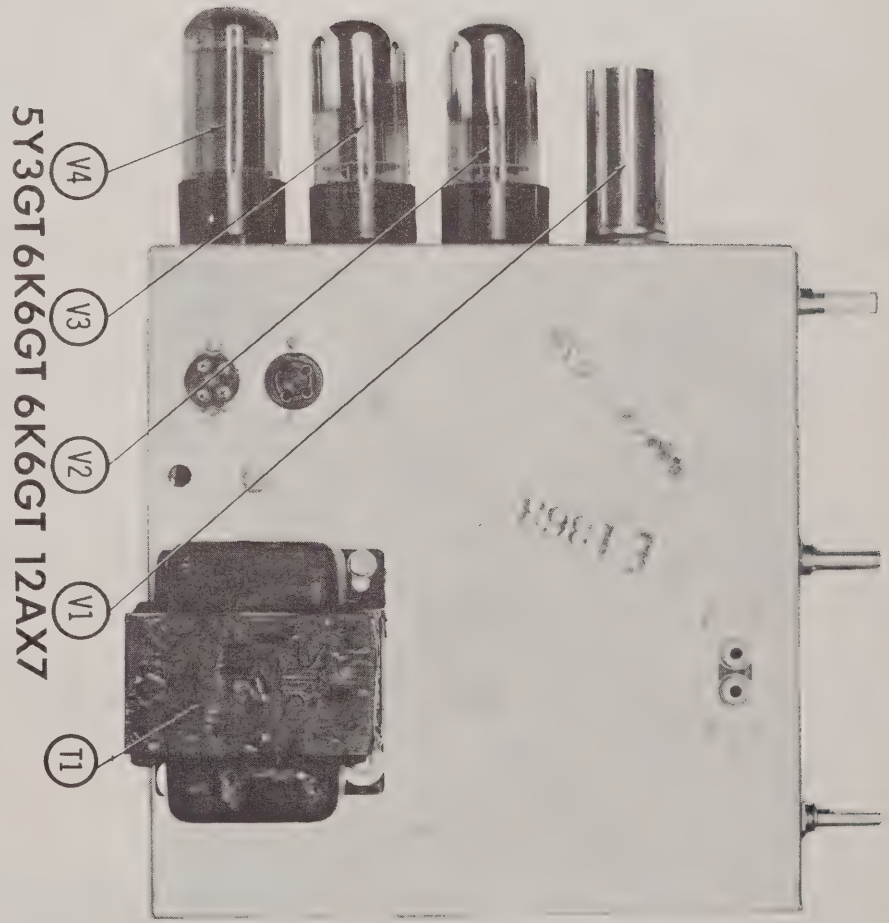
ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1	2Meg	1/2	33-5535-14					Volume, Tap at 200K & 1Meg
R2A	1Meg	1/2	33-5587-18	B-70	A47-1Meg-Z	Q13-137	U53	Bass
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R3A	1Meg	1/2	33-5587-18	B-70	A47-1Meg-Z	Q13-137	U53	Treble
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA PHILCO PART No.	IRC PART No.	NOTES
R4	2.2Meg		66-5228340	BTS-2.2Meg	
R5	1Meg		66-5108340	BTS-1Meg	
R6	1Meg		66-5108340	BTS-1Meg	
R7	270K		66-4278340	BTS-270K	
R8	4700Ω		66-2478340	BTS-4700	
R9	82K		66-3828340	BTS-82K	
R10	330K		66-4338340	BTS-330K	
R11	22K		66-3228340	BTS-22K	
R12	220K		66-4228340	BTS-220K	
R13	33K		66-3338340	BTS-33K	
R14	100K		66-4108340	BTS-100K	
R15	100K		66-4108340	BTS-100K	
R16	270K		66-4278340	BTS-270K	
R17	2700Ω		66-2278340	BTS-2700	
R18	470K		66-4478340	BTS-470K	
R19	270Ω	7	33-1335-91		
R20	3300Ω		66-2338340	BTS-3300	
R21	4700Ω		66-2478340	BTS-4700	
R22	4.7Meg		66-5478340	BTS-4.7Meg	
R23	10K		66-3108340	BTS-10K	
R24	3300Ω	2	66-2335340	BTB-3300	
R25	56Ω		66-0568340	BTS-56	
R26	56Ω		66-0568340	BTS-56	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC ③ .65A	660VCT .080A	5VAC ③ 2A	6.3VAC ③ 1.1A	32-8790	P9310 ①②	P-3152 ①②	PC8422 ①③	24R04U ①③	R-11A ①③

① Tape center tap on 6.3V winding.
② Fabricate mounting.
③ Drill new mounting holes.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	9000Ω CT	3-4Ω speaker load	32-8791						
	Turns Ratio								
	25:	1 (total)							

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	PHILCO PART No.	QUAM PART No.	
SP1	8"	PM	3-4Ω	36-1651-8 ①②	8A31	① Alternate part #36-1651-18
	10"	PM	3-4Ω	36-1653-6 ③	10A6A	② Used in models E-1363 E-1763
SP2				36-1656 ④		③ Used in model E-1765
SP3				36-1661 ⑤		④ Electrostatic Type, used in all models
						⑤ Acoustic Resonator, used in model E-1363 only

COILS

ITEM No.	USE	REPLACEMENT DATA				NOTES
		PHILCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Crossover Choke	32-4628				.1 Henry

PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA					REMARKS
	PHILCO PART No.	ASTATIC PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	MOUNT	
M1	325-8016	55-T	G-D	56	PT-2	

ASTATIC NEEDLE LISTING SHOWN ABOVE IS SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGE LISTED. FOR ORIGINAL CARTRIDGE NEEDLE REPLACEMENTS SEE BELOW.

PHONO NEEDLE

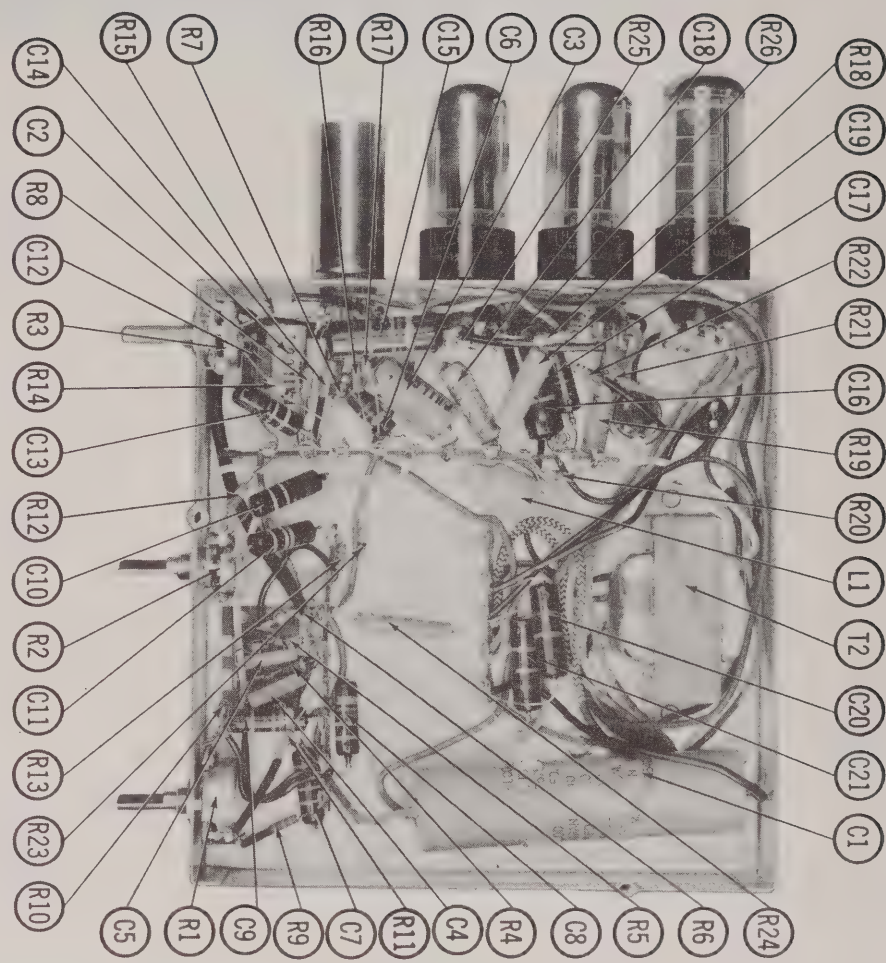
(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

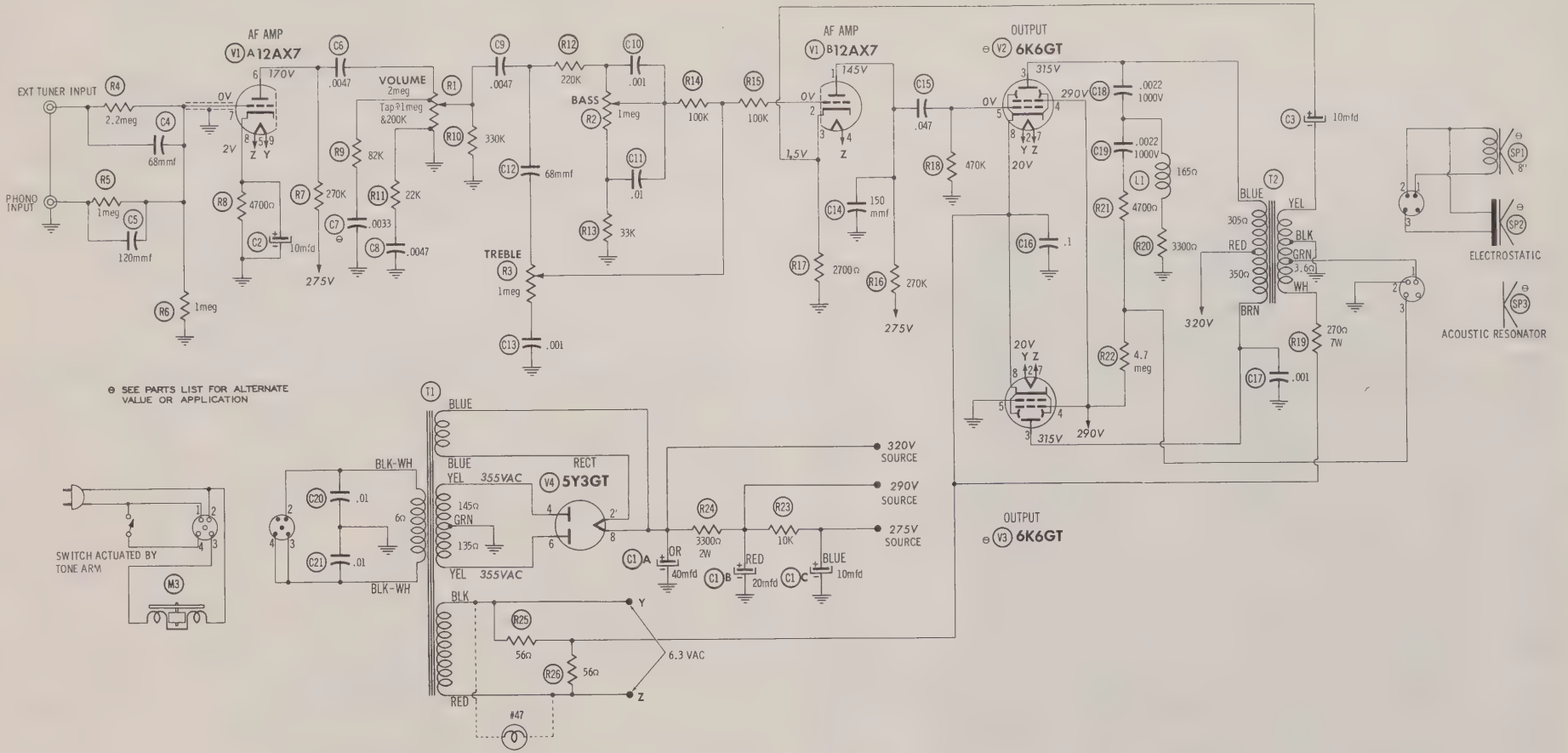
ITEM No.	REPLACEMENT DATA			REMARKS
	PHILCO PART No.	JENSEN PART No.	WALCO PART No.	
M2	325-8020	† S-61 or †♦ S-61SD or ♦ S-61D	† W-77TPS or †♦ W-77DS or ♦ W-77TPD	† Jewel ♦ Diamond

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M3	Motor		Phono
	Knobs	54-6093-15	Control(3 used) Models E-1363, E-1763
	Knobs	54-6147-22	Control(3 used) Model E-1765
	Cabinet	11238-1	Light, Model E-1363
	Cabinet	11238	Mahogany, Model E-1363
	Cabinet	11235-1	Light, Model E-1763
	Cabinet	11235	Mahogany, Model E-1763
	Cabinet	11208-7	Fruitwood, Model E-1765
	Cabinet	11208-5	Light, Model E-1765
	Cabinet	11208-4	Mahogany, Model E-1765
	Cabinet	11208-6	Teakwood, Model E-1765

CHASSIS—BOTTOM VIEW





1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AX7	† 280K	240K	2700Ω	300Ω	300Ω	† 280K	1Meg	4700Ω	300Ω
V2	6K6GT	NC	300Ω	† 305Ω	† 3300Ω	470K	NC	300Ω	270Ω	
V3	6K6GT	NC	300Ω	† 350Ω	† 3300Ω	0Ω	TP	300Ω	270Ω	
V4	5Y3GT	NC	20K(Min)	NC	145Ω	NC	135Ω	NC	20K(Min)	

† MEASURED FROM PIN 8 OF V4
NC NO CONNECTION
TP TIE POINT

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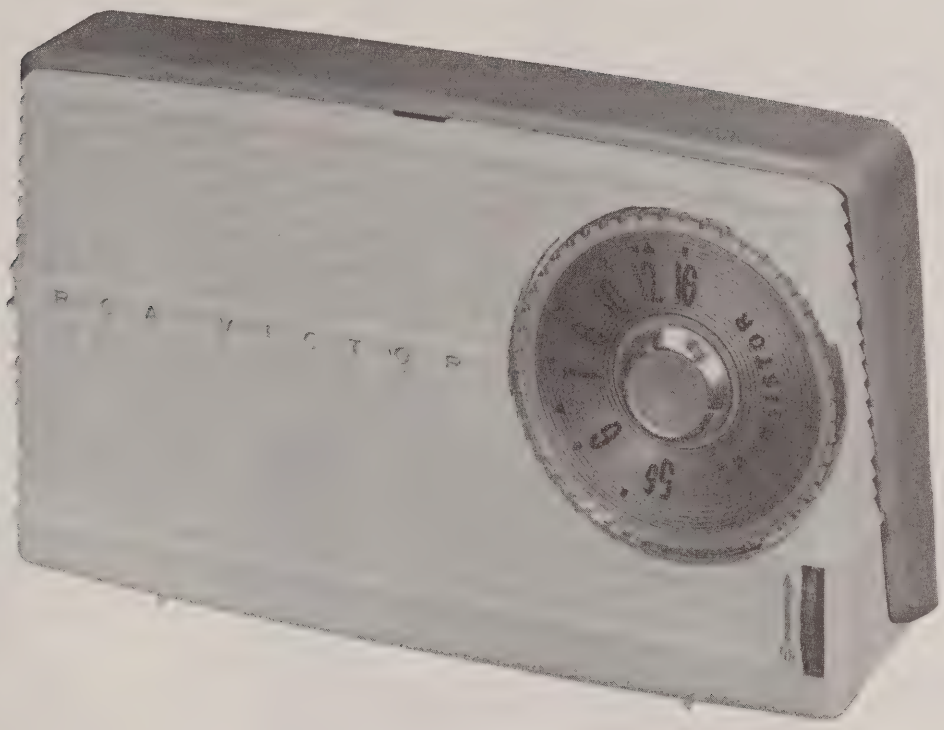
RCA VICTOR MODELS 8-BT-7J, LE, 8-BT-8FE, JE (Ch. RC-1169, A)



RCA VICTOR MODELS 8-BT-7J, LE, 8-BT-8FE, JE (Ch. RC-1169, A)

TRADE NAME	RCA Victor Models 8-BT-7J, 8-BT-7LE, 8-BT-8FE, 8-BT-8JE (Ch. RC-1169, RC-1169A)
MANUFACTURER	RCA Victor Radio & "Victrola" Div., Radio Corp. Of America, Camden 8, N. J.
TYPE SET	Battery Operated Portable Transistorized AM Receiver
POWER SUPPLY	9 Volts DC — RATING 8.5MA @ 9 Volts DC
TUNING RANGE—BROADCAST	540KC - 1600KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to antenna stator lug on tuning gang. Low side to chassis.	455KC (400∿ Mod.)	Point of non-interference near 1600KC.	Across voice coil.	A1, A2	Adjust for maximum output.
2.		Loop	1620KC	Tuning gang fully open.	"	A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		"	1400KC	Tune to 1400KC signal.	"	A4	"
4.		"	600KC	Tune to 600KC signal.	"	A5	Adjust for maximum output while rocking tuning gang. Repeat step 2, 3 and 4.

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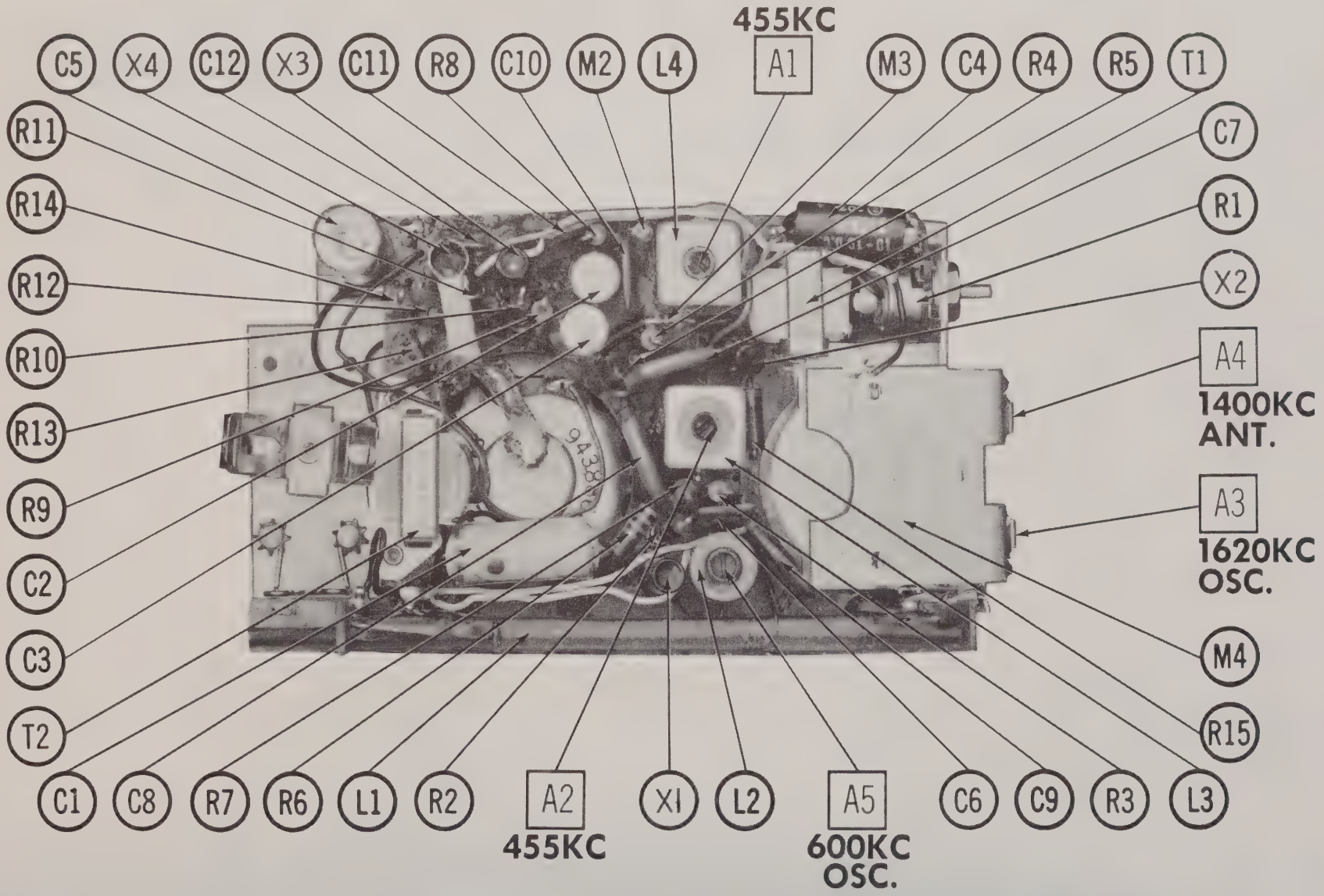


CHASSIS TOP VIEW

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	USE	TYPE	NOTES
X1	Converter	2N140	
X2	IF Amplifier	2N139	
X3	AF Amplifier	2N109	
X4	Output	2N109	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA RCA VICTOR PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1	100	10	103400	SRE12V100	NL100-10				R2386*
C2	10	10	103382	XPP10V10	NL10-10	TT12X10	ML10-15		TE-1114
C3	10	10	103382	XPP10V10	NL10-10	TT12X10	ML10-15		TE-1114
C4	10	10	101613	XPP10V10	NL10-10	TT12X10	ML10-15		TE-1114
C5	25	10	103381	XPP10V25	NL25-10	TT10X25	ML30-15		TE-1118

* Non Catalog Item

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA RCA VICTOR PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C6	30000		101698	BPD-03	BYB6S3				5HK-S3	
C7	100000		103014						5HK-P1	
C8	100000		103014						5HK-P1	
C9	50000		103380	BPD-05					5HK-S5	
C10	30000		101698	BPD-03		BYB6S3			5HK-S3	
C11	20000		103379	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C12	20000		103379	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA RCA VICTOR PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R12	2000Ω	1/4	103398					Volume & Switch

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA VICTOR PART No.	REPLACEMENT DATA IRC PART No.	NOTES
R2	390Ω 5%		30498	BTS-390 5%	
R3	1000Ω		502210	BTS-1000 5%	Note #1
R4	1000Ω		502210	BTS-1000 5%	Note #1
R5	120Ω		502112	BTS-120	
R6	33K 5%		502333	BTS-33K 5%	
R7	120Ω 5%		502112	BTS-120 5%	
R8	5600Ω		502256	BTS-5600	
R9	8200Ω		502282	BTS-8200	
R10	18K		502318	BTS-18K	
R11	1200Ω		502212	BTS-1200	
R12	4700Ω		502247	BTS-4700	
R13	220Ω		502122	BTS-220	
R14	100Ω		502110	BTS-100	
R15	1000Ω		502210	BTS-1000 5%	Note #1

Note #1. Mfgr. Lists Units At 5%

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO PRI.	TURNS RATIO SEC.	REPLACEMENT DATA RCA VICTOR PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	2:	1	103394	GH118 ①		TA-5 ①	TR-6 ①		① Tape Center Tap On Secondary Winding.

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA RCA VICTOR PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	768Ω	12Ω	103395	GH107 ①		TA-1 ①	TR-20 ①		① Tape Center Tap On Primary Winding.

SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA RCA VICTOR PART No.	REPLACEMENT DATA QUAM PART No.	NOTES
SP1	2 1/8"	PM	12Ω	103391		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA RCA VICTOR PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L1	Loop Stick	103399				
L2	Osc. Coil	103393				
L3	Input IF	103396	16-9012			
L4	Output IF	103397	16-9014			

BATTERIES

ITEM No.	VOLTAGE	RCA VICTOR PART No.	BURGESS "A"	BURGESS "B"	EVEREADY "A"	EVEREADY "B"	MALLORY "A"	MALLORY "B"	RAY-O-VAC "A"	RAY-O-VAC "B"	NOTES
M1	9V	VS-300		P6		266		M-1600		1600	

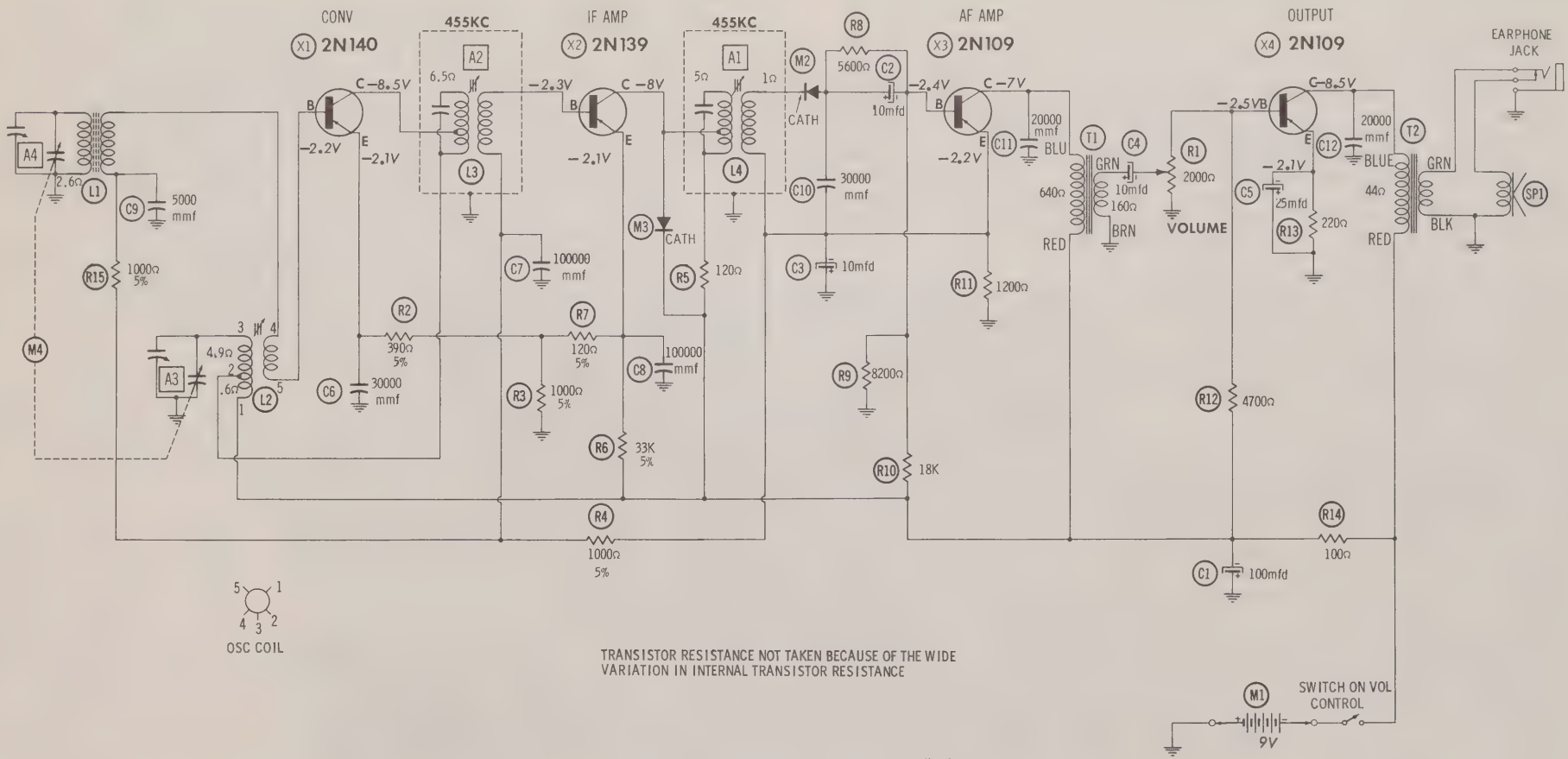
CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA RCA VICTOR PART No.	SYLVANIA PART No.	NOTES
M2	1N60	101615	1N60	Audio Det. (Pigtail)
M3	1N60	101615	1N60	Limiter (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	RCA VICTOR PART No.	NOTES
M4	Tuning gang	103388	Two gang (15-140MMF, 15-95MMF)
	Knob	103441	Tuning (Models 8-BT-7LE, 8-BT-7J)
	Knob	103390	Tuning (Models 8-BT-8FE, 8-BT-8JE)
	Knob	103384	Volume
	Cabinet	Y4064	Model 8-BT-7LE
	Cabinet	Y4063	Model 8-BT-8JE
	Cabinet	Y4062	Model 8-BT-8FE
	Cabinet	Y4065	Model 8-BT-7J

RCA VICTOR MODEL 8-BT-7J



TRANSISTOR RESISTANCE NOT TAKEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to commom negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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RCA VICTOR
MODELS 8-EY-4FK, DJ (Ch. RS-160)

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

RCA VICTOR
MODELS 8-EY-4FK, DJ (Ch. RS-160)

TRADE NAME	RCA Victor Models 8-EY-4DJ, 8-EY-4FK (Ch. RS-160)
MANUFACTURER	RCA Victor Radio & "Victrola" Div., Radio Corp. Of America, Camden 8, N. J.
TYPE SET	AC Operated Phono Amplifier With 45 RPM Automatic Record Changer
TUBES (Four)	Types 12AX7 AF Amp. -Phase Inv., (2) 35C5 Output, 35W4 Rectifier
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING .31 Amp. @ 117 Volts AC (30 Watts Without Motor)

FOR SERVICE INFORMATION ON RECORD CHANGER RP-190D-5 — SEE RCA RP-190 SERIES — PHOTOFACT SET 144 FOLDER 7 OR RECORD CHANGER MANUAL CM-4.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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PARTS LIST AND DESCRIPTIONS

RCA VICTOR
MODEL 8-EY-4DJ (Ch. RS-160)

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	AF Amp. -Phase Inv.	12AX7	
V2	Output	35C5	
V3	Output	35C5	
V4	Rectifier	35W4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA RCA VICTOR PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	80	150	75980	PRS150V8050	BBRD8515	TCD498	TDLD-12	FMD-1550	TVA-2462
B	50	150						FM-1530	
C2	5	50	74521	PRS50V5	BBR5-50	TC30	TD-5-50	MMT-0505	TVA-1303

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA RCA VICTOR PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C3	.01	200	73561	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C4	680		79798	S1680	D6-681	LT6T68	GP-680	UC-5368	5GA-T68	
C5	.047	400	73553	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C6	.0039	400	73796	BPD-004	DD-402	CUB4D4	GP-4000	GEM-624	6TM-D4	
C7	.033	200	79015	BPD-03	DF-303	CUB6S33	ED-03	GEM-6133	6TM-S3	
C8	.01	400		BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C9	.0022	600	73595	BPD-0022	D6-222	CUB6D22	GP-2200	GEM-6222	6TM-D22	
C10	.1	400	73551	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C11	.022	400	73562	BPD-02	DF-203	CUB4S22	ED-02	GEM-4122	4TM-S22	
C12	150		79797	S1150	D6-151	LT6T15	GP-150	UC-5315	5GA-T15	
C13	.0022	600	73595	BPD-0022	D6-222	CUB6D22	GP-2200	GEM-6222	6TM-D22	
C14	.0022	600	73595	BPD-0022	D6-222	CUB6D22	GP-2200	GEM-6222	6TM-D22	
C15	.047	400	73553	BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA RCA VICTOR PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1.5Meg	½	103314	ABT-167			UDT-291	Volume, Tap @ 250K & 500K
B	Shaft			AK-3			Not Req.	
R2	1Meg	½	103313					Tone Note #1

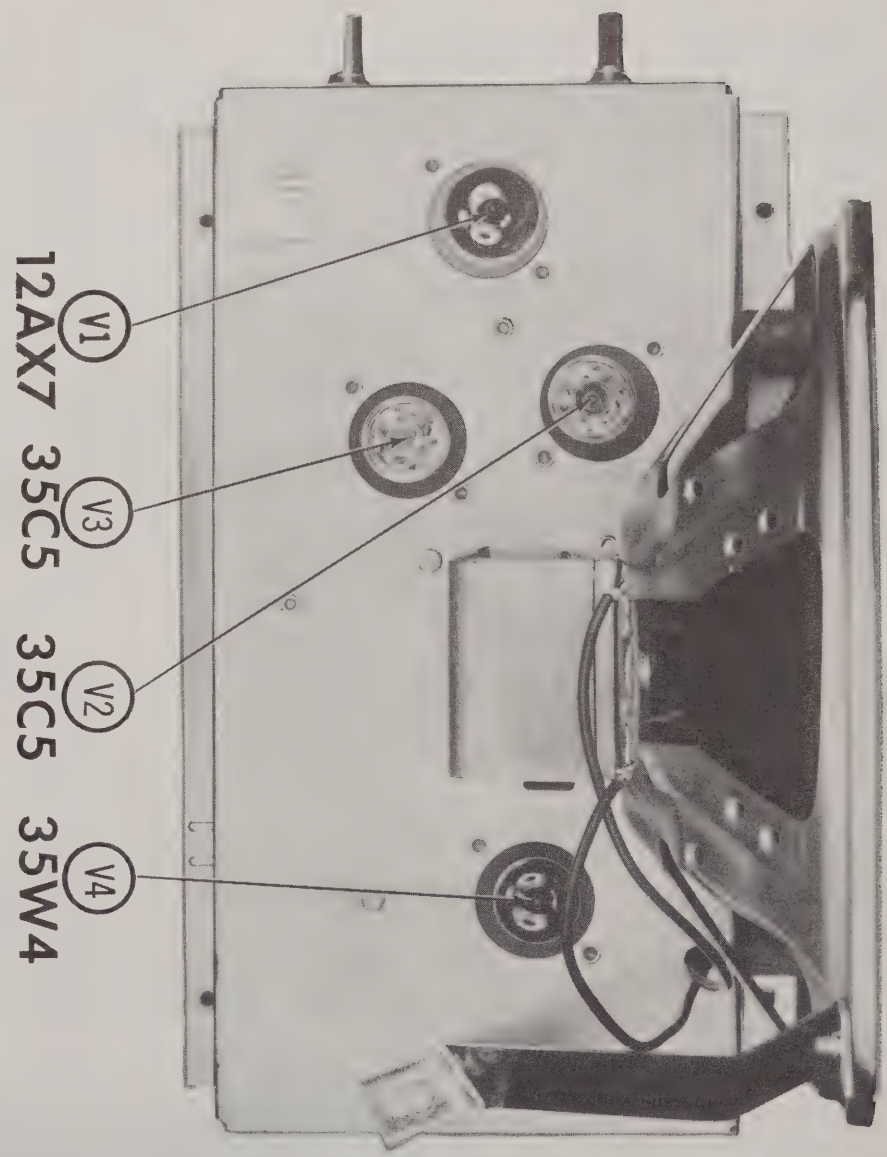
Note #1. R2 Open In Center, 500K Each Side.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA VICTOR PART No.	REPLACEMENT DATA IRC PART No.	NOTES
R3	120K		502412	BTS-120K	
R4	12K		502312	BTS-12K	
R5	220K		502422	BTS-220K	
R6	100K		502410	BTS-100K	
R7	470K		502447	BTS-470K	
R8	12K		502312	BTS-12K	
R9	220K		502422	BTS-220K	
R10	3900Ω		502239	BTS-3900	
R11	180K		502418	BTS-180K	
R12	470K		502447	BTS-470K	
R13	12K		502312	BTS-12K	
R14	82Ω	1	512082	BTA-82	
R15	12K		502312	BTS-12K	
R16	1000Ω	1	512210	BTA-1000	
R17	33Ω	1	512033	BTA-33	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	RCA VICTOR PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	3700Ω CT	3-4Ω	103312	Z1001	A-2900	A-3856	24S60	S-51X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	RCA VICTOR PART No.	QUAM PART No.	
SP1	8"	PM	3-4Ω	77872	8A21	

PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA					REMARKS
	RCA VICTOR PART No.	ASTATIC PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M1	79791	51-1J	G (J)	51-1	PFT-1	

ASTATIC NEEDLE LISTING SHOWN ABOVE IS SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGE LISTED. FOR ORIGINAL CARTRIDGE NEEDLE REPLACEMENTS SEE BELOW.

PHONO NEEDLE

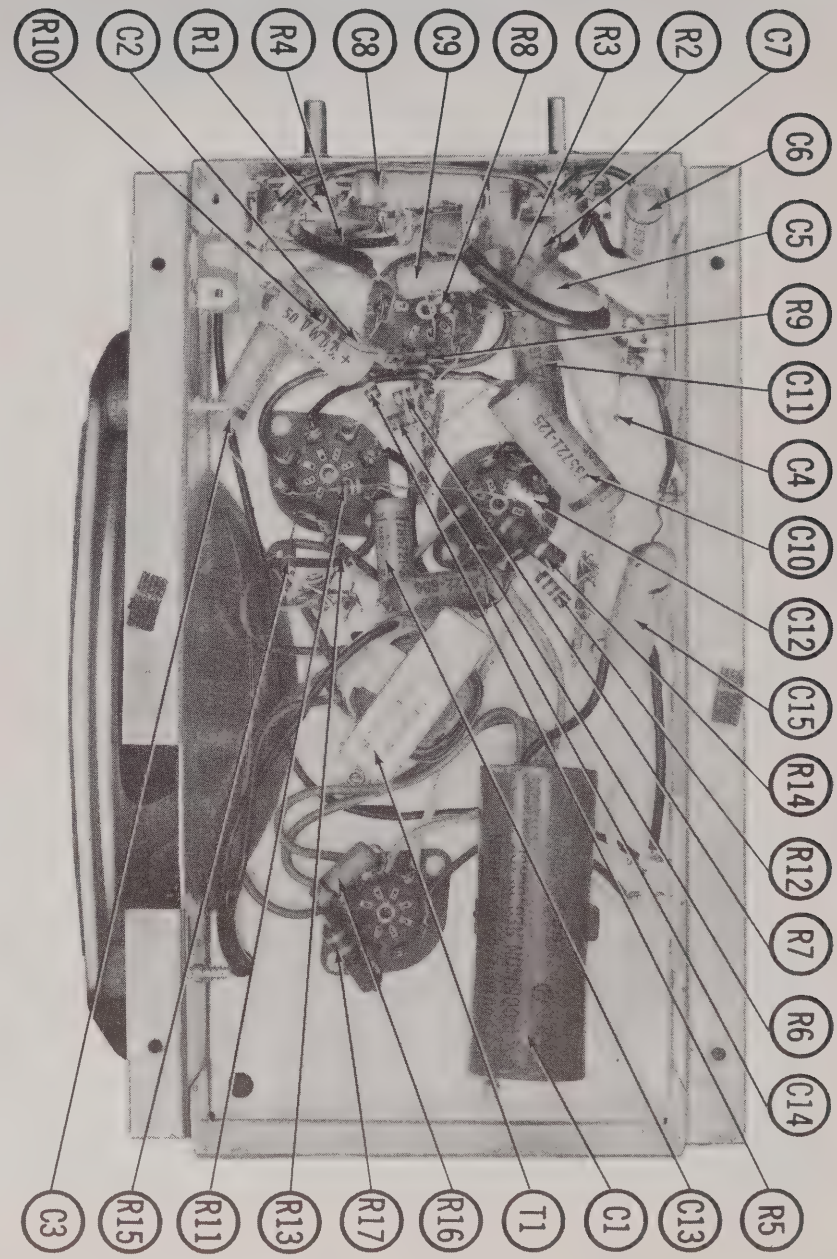
(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

ITEM No.	REPLACEMENT DATA			REMARKS
	RCA VICTOR PART No.	JENSEN PART No.	WALCO PART No.	
M2	79849	† S-63LP Or ♦ S-63LPD	† W-76MGS Or ♦ W-76MGD	† Jewel ♦ Diamond

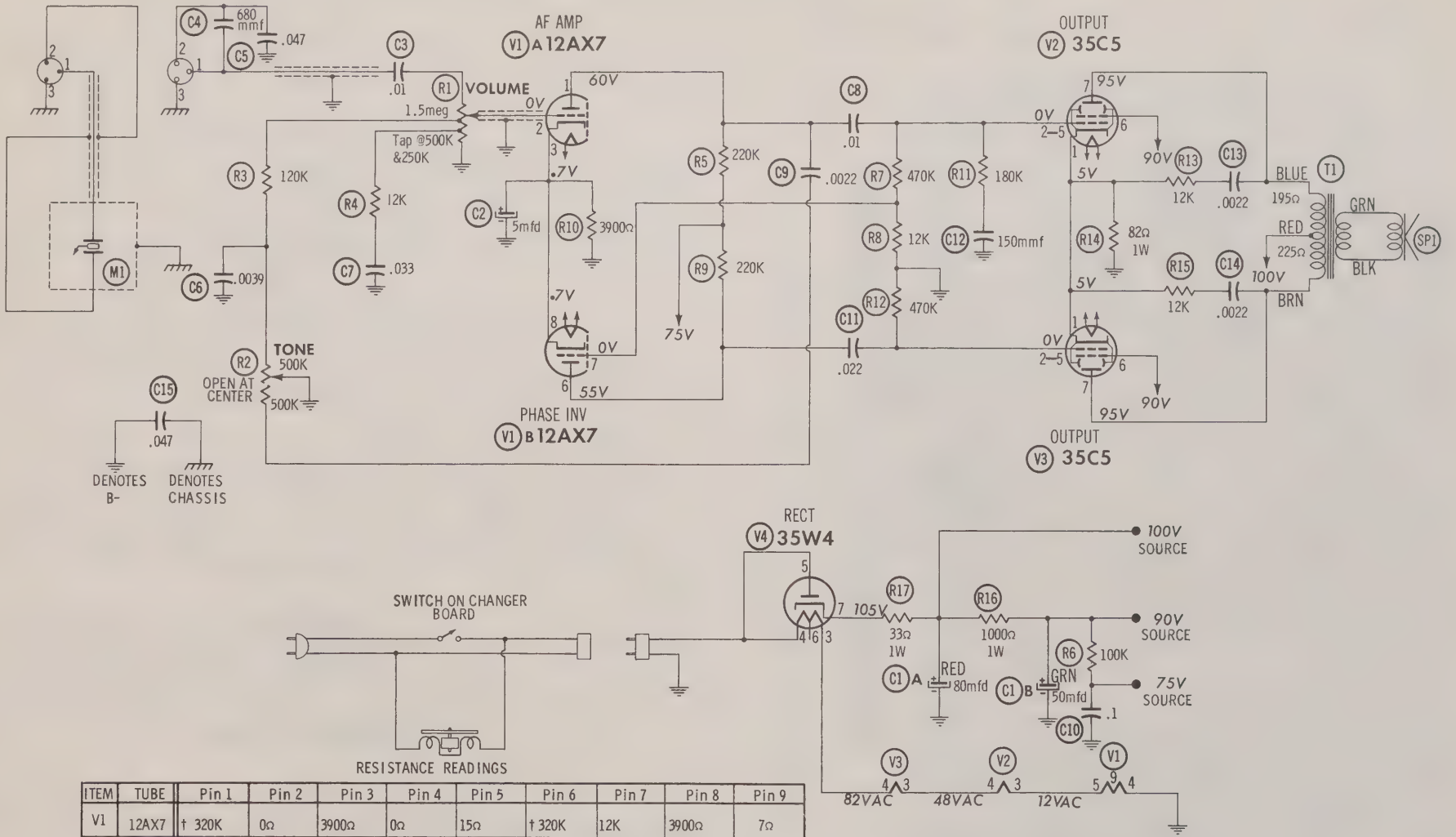
MISCELLANEOUS

ITEM No.	PART NAME	RCA VICTOR PART No.	NOTES
	Knob	103316	Volume, Tone — Model 8-EY-4FK
	Knob	103315	Volume, Tone — Model 8-EY-4DJ
	Knob	101685	Control Record Changer
	Lid	Y3664	Model 8-EY-4DJ
	Lid	Y3665	Model 8-EY-4FK
	Cabinet	Y4044	Includes Lid Model 8-EY-4DJ
	Cabinet	Y4045	Includes Lid, Model 8-EY-4FK

CHASSIS—BOTTOM VIEW



RCA VICTOR MODEL 8-EY-4DJ (Ch. RS-160)



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AX7	† 320K	0Ω	3900Ω	0Ω	15Ω	† 320K	12K	3900Ω	7Ω
V2	35C5	82Ω	480K	15Ω	65Ω	480K	† 1000Ω	† 225Ω		
V3	35C5	82Ω	470K	65Ω	100Ω	470K	† 1000Ω	† 255Ω		
V4	35W4	TP	TP	100Ω	135Ω	135Ω	130Ω	20K (MIN)		

† MEASURED FROM PIN 7 OF V4.
TP TIE POINT
NC NO CONNECTION

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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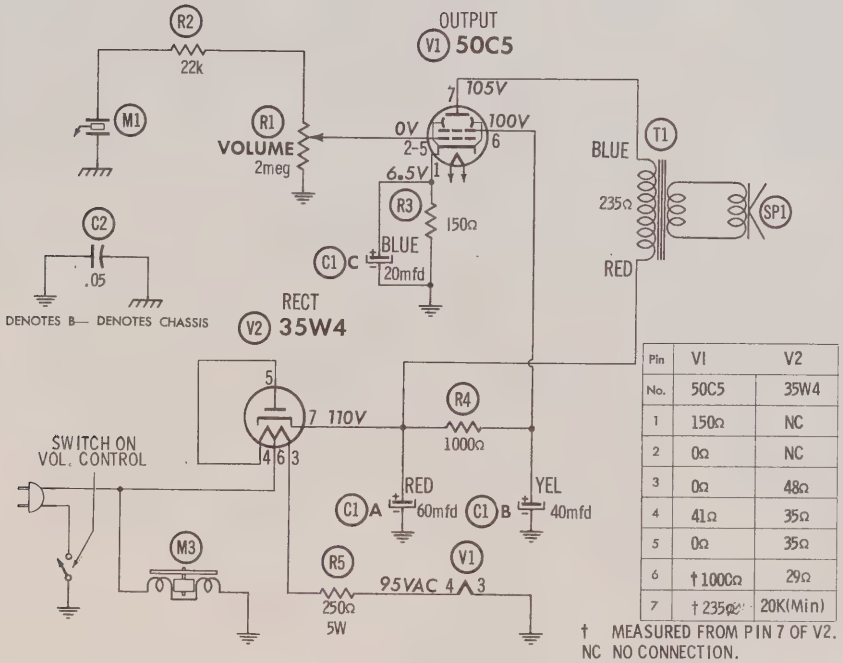
SILVERTONE MODELS 7253, 7254, 7255 (Ch. 567.42000, 567.42100)

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

SILVERTONE MODELS 7253, 7254, 7255 (Ch. 567.42000, 567.42100)

TRADE NAME	Silvertone Models 7253, 7254 (Ch. 567.42000), 7255 (Ch. 567.42100)
SUPPLIER	Sears Roebuck & Co., 925 S. Homan, Chicago, Illinois
TYPE SET	AC Operated Phono Amplifier With 3 Speed Manual Record Player
TUBES (Two)	Types 50C5 Output, 35W4 Rectifier
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING .44 Amp. @ 117 Volts AC (42 Watts)



Pin	V1	V2
No.	50C5	35W4
1	150Ω	NC
2	0Ω	NC
3	0Ω	48Ω
4	41Ω	35Ω
5	0Ω	35Ω
6	†1000Ω	29Ω
7	†235Ω	20K(Min)

† MEASURED FROM PIN 7 OF V2.
NC NO CONNECTION.

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PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	Output	50C5	

ITEM No.	USE	TYPE	NOTES
V2	Rectifier	35W4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Silvertone PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	60	150	770157	PRS150/25V 8040/20	BBRQ44315C	TCT3117	CDB-Q-1001	FMT-333	TVA-3455
B	40	150							
C	20	20							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	Silvertone PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2	.05	200	770122	BPD-05	DF-503	CUB2S5		GEM-415	2TM-S5	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	Silvertone PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	2Meg	½	740093	B-76	A47-2Meg-Z	Q13-139	U55	Volume
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
C	Switch			KB-1	SWE-12	76-1	US-26	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Silvertone PART No.	IRC PART No.	
R2	22K		760005	BTS-22K	
R3	150Ω		760023	BTS-150	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Silvertone PART No.	IRC PART No.	
R4	1000Ω		760067	BTS-1000	
R5	250Ω	5	760318	PW7-250	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	Silvertone PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	2200Ω	3-4Ω	700116 ①	Z1101 ②	A-3025 ②	A-3332 ②	22S45 ②	S-12X ②	① Alternate part #700117

SPEAKER

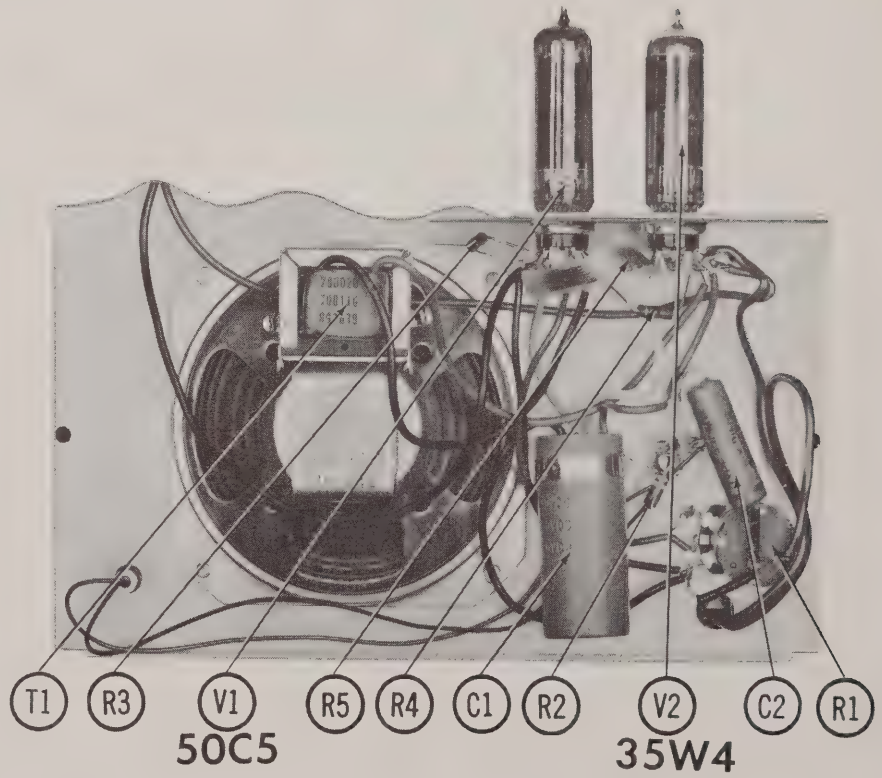
ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	Silvertone PART No.	QUAM PART No.	
SP1	4"	PM	3-4Ω	013365 ①	4A07	① Alternate part #011870

PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA					REMARKS
	Silvertone PART No.	ASTATIC PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	MOUNT	
M1	720154	414-2 *P310-2	N8-2			* Tone arm complete with cartridge

ASTATIC NEEDLE LISTING SHOWN ABOVE IS SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGE LISTED. FOR ORIGINAL CARTRIDGE NEEDLE REPLACEMENTS SEE BELOW.

CHASSIS—BOTTOM VIEW



PHONO NEEDLE

(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

ITEM No.	REPLACEMENT DATA			REMARKS
	Silvertone PART No.	JENSEN PART No.	WALCO PART No.	
M2	720155	†CRA-552 or ♦ CRA-552D		† Jewel ♦ Diamond

MISCELLANEOUS

ITEM No.	PART NAME	Silvertone PART No.	NOTES
M3	Phono Motor	012334	Chassis 567.42100
	Phono Motor	013370	Chassis 567.42000
	Knob	310246	On-off, Volume
	Cabinet	440418-067	Model 7253
	Cabinet	440417-067	Models 7254, 7255

PHOTOFACT* Folder

*TRADE MARK

SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA

IMPORTANT FILING NOTICE

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Merely insert the corresponding folder on this model in this envelope to retain proper filing and indexing order.

SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA

TRADE NAME	Spartan Chassis 19U-01AA, U19-02AA, V19-01AA, V19-02AA (19 Series)
MANUFACTURER	Spartan Div., The Magnavox Company, Fort Wayne 4, Indiana
TYPE SET	Television
TUBES	Fifteen
POWER SUPPLY	110-120 Volts AC, 60 Cycle RATING 120 Watts, 1.1 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

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Tube Placement Chart 3

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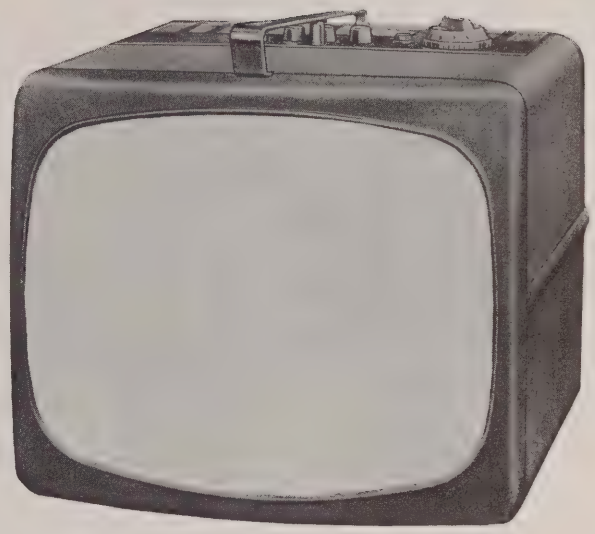
DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove the 2 side trim strips by sliding off toward the back.
2. Remove 6 metal screws and the rear cover.
3. Remove the bolt holding the handle at the front, the metal screw in the center of the handle and the handle.
4. Remove 7 push-on type control knobs from the top.
5. Remove speaker leads, picture tube socket, ion trap, yoke clamp, yoke and HV lead.
6. Remove 4 metal screws and remove the cabinet top.
7. Remove 4 chassis bolts from the bottom and remove the chassis.
8. Remove 4 speaker nuts and the speaker.



CAUTION NOTE

ONE SIDE OF AC LINE CONNECTED TO CHASSIS

Care should be exercised when connecting test equipment or physically contacting chassis.

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3924 MEADE ST.
DENVER, COLORADO

SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

For touch-up adjustment of the VHF oscillator it is necessary to remove the chassis from the cabinet. (See disassembly instructions).

PICTURE TUBE SAFETY GLASS CLEANING

For picture tube and safety glass cleaning, see steps 1, 2 and 3 of "Disassembly Instructions". Remove 1 metal screw from the bottom of the front and remove the entire front of cabinet.

FOCUS

The focus may be varied by the position of a wire from pin 6 of the picture tube to pin 36 or 38 on the printed board. Adjust Ion trap for the best focus consistent with maximum brightness.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The horizontal frequency coil is used as the horizontal hold control. Adjust the horizontal hold until the picture synchronizes horizontally. For location, see tube placement chart.

FUSES

A 5Ω fusible resistor R73 is used for LV power supply protection. (For location see tube placement chart).

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

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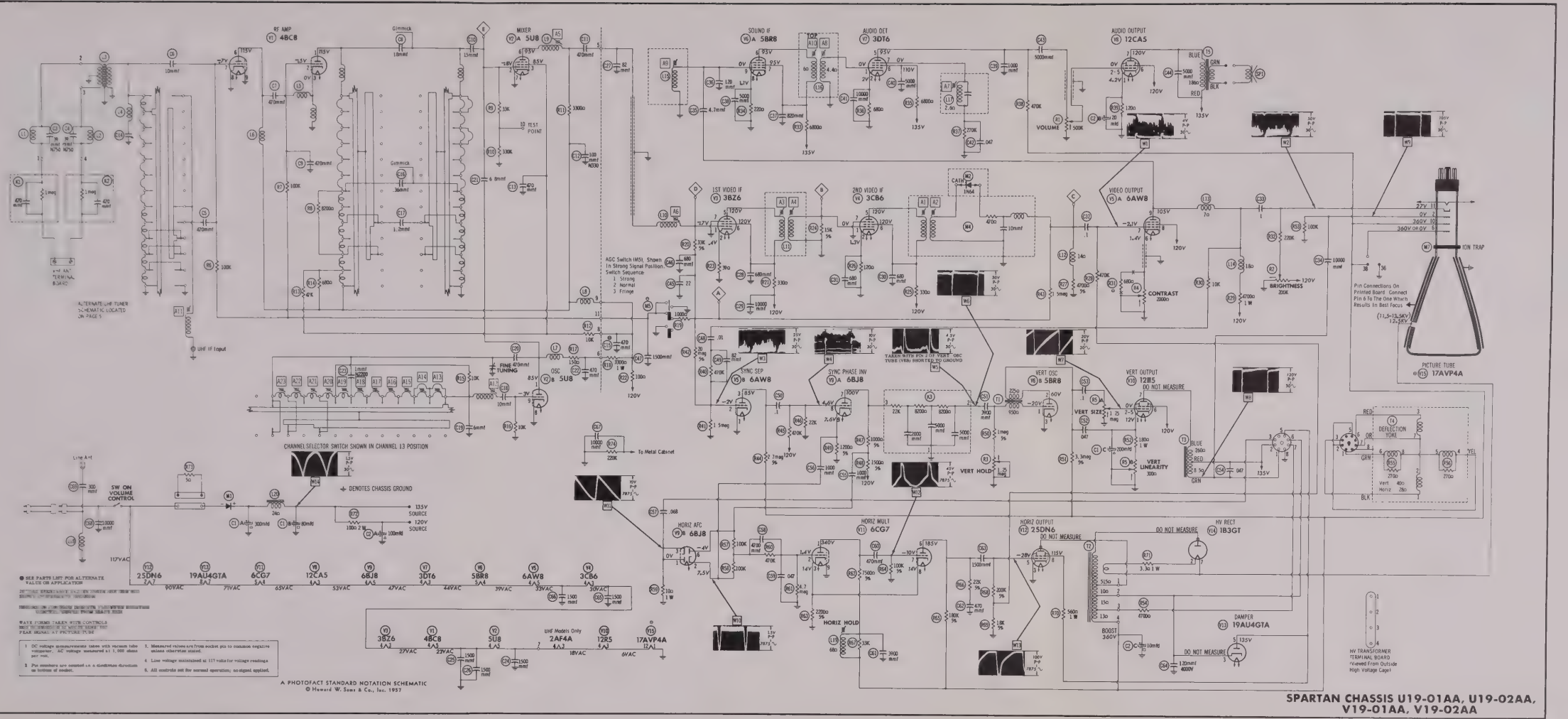
SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA
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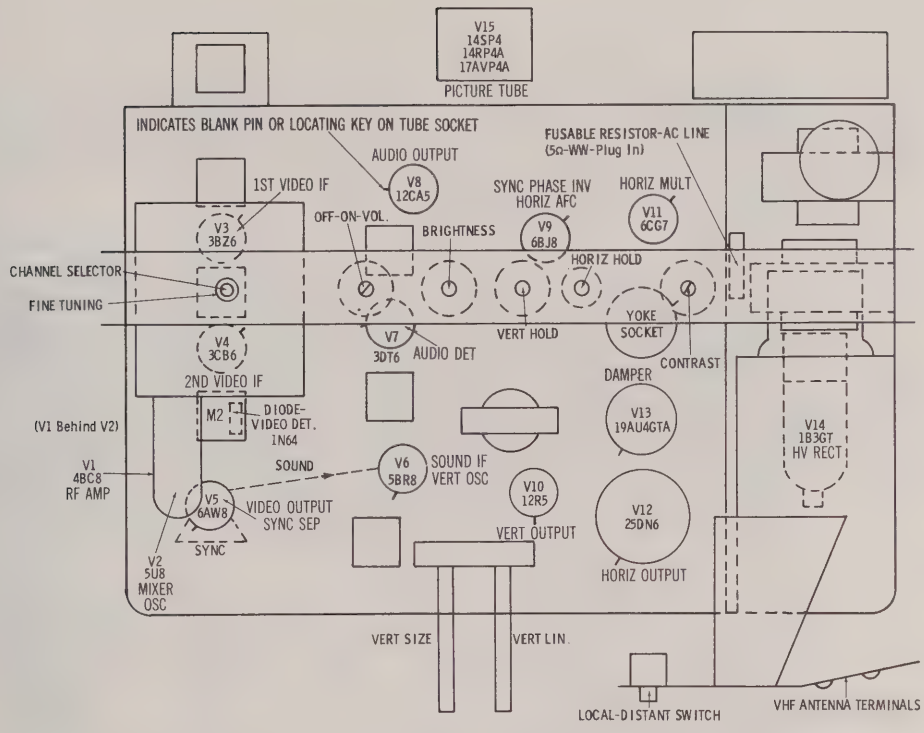
ALTERNATE UHF TUNER SCHEMATIC LOCATED ON PAGE 5
UHF IF Input
CHANNEL SELECTOR SWITCH SHOWN IN CHANNEL 13 POSITION
DENOTES CHASSIS GROUND
SW ON VOLUME CONTROL
Line A+T
117VAC
135V SOURCE
120V SOURCE
To Metal Cabinet
AGC Switch (MS), Shown In Strong Signal Position. Switch Sequence: 1 Strong 2 Normal 3 Fringe
FINE TUNING
OSC
RF AMP
MIXER
SOUND IF
AUDIO DET
AUDIO OUTPUT
1ST VIDEO IF
2ND VIDEO IF
VIDEO OUTPUT
SYNC SEP
SYNC PHASE INV
VERT OSC
VERT OUTPUT
HORIZ AFC
HORIZ MULT
HORIZ OUTPUT
HV RECT
DAMPER
VOLUME
CONTRAST
BRIGHTNESS
VERT SIZE
VERT LINEARITY
VERT HOLD
HORIZ HOLD
BOOST
DEFLECTION YOKE
ION TRAP
PICTURE TUBE
HV TRANSFORMER TERMINAL BOARD
DO NOT MEASURE
UHF Models Only
TAKEN WITH PIX TUBE VERT. OSC TUBE (V8B) SHORTED TO GROUND
Pin Connections On Printed Board Connect Pin 6 To The One Which Results In Best Focus
HV TRANSFORMER TERMINAL BOARD Viewed From Outside High Voltage Cage
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
WAVE FORMS TAKEN WITH CONTROLS SET TO STANDARD AS NOTED UNDER TEST
FREE SIGNAL AT PICTURE TUBE
1 DC voltage measurements taken with vacuum tube voltmeter. AC voltage measured at 1,000 ohms per volt.
2 Pin numbers are counted in a clockwise direction as bottom of socket.
3 Measured values are from socket pin to common negative unless otherwise stated.
4 Line voltage maintained at 117 volts for voltage readings
5 All controls set for normal operation; no signal applied.

TUBE PLACEMENT CHART



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3924 MEADE ST.
DENVER, COLORADO

TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

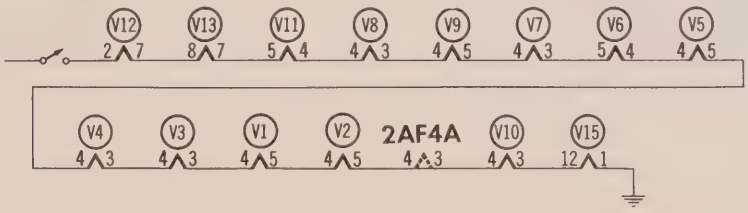
POWER SUPPLY FAILURE
No raster, no sound - Fusible Resistor (R73), Rectifier (M1)

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - V3, V4, Diode (M2), V5
No pic, no sound, has snow - V1, V2
No pic, has sound, has raster - V5, V15
Has pic, no sound - V6, V7, V8

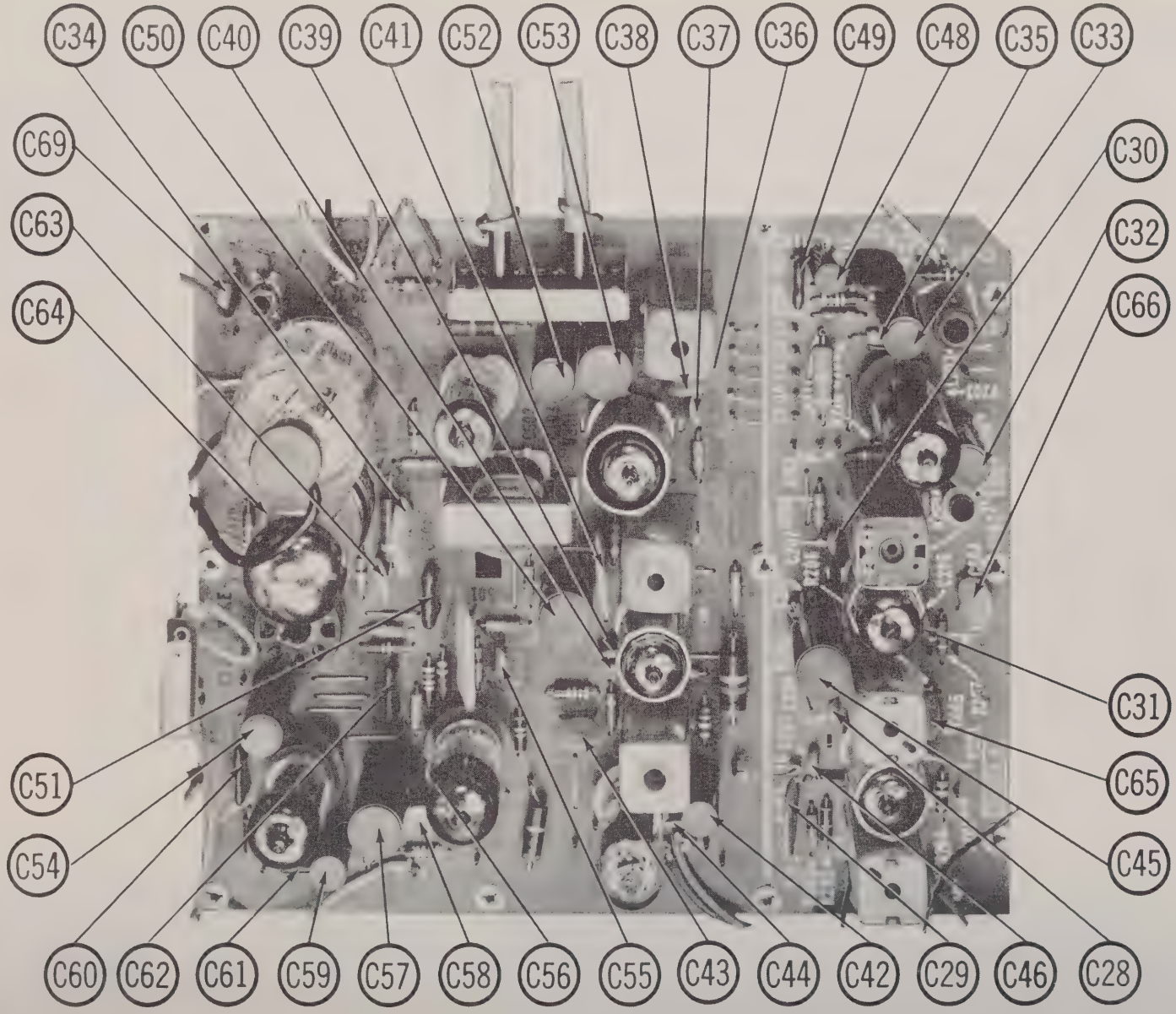
SYNC FAILURE
No vert. sync - V5, V9
No horiz. sync - V5, V9
No vert. or horiz. sync - V5, V9

SWEEP FAILURE
No raster, has sound - V9, V11, V12, V13, V14, V15
No vertical deflection - V6, V10
Poor vert. linearity or foldover - V6, V10
Poor horiz. linearity or foldover - V11, V12, V13
Narrow picture - V11, V12, V13, M1
Vert. off freq. - V6
Horiz. off freq. - V11

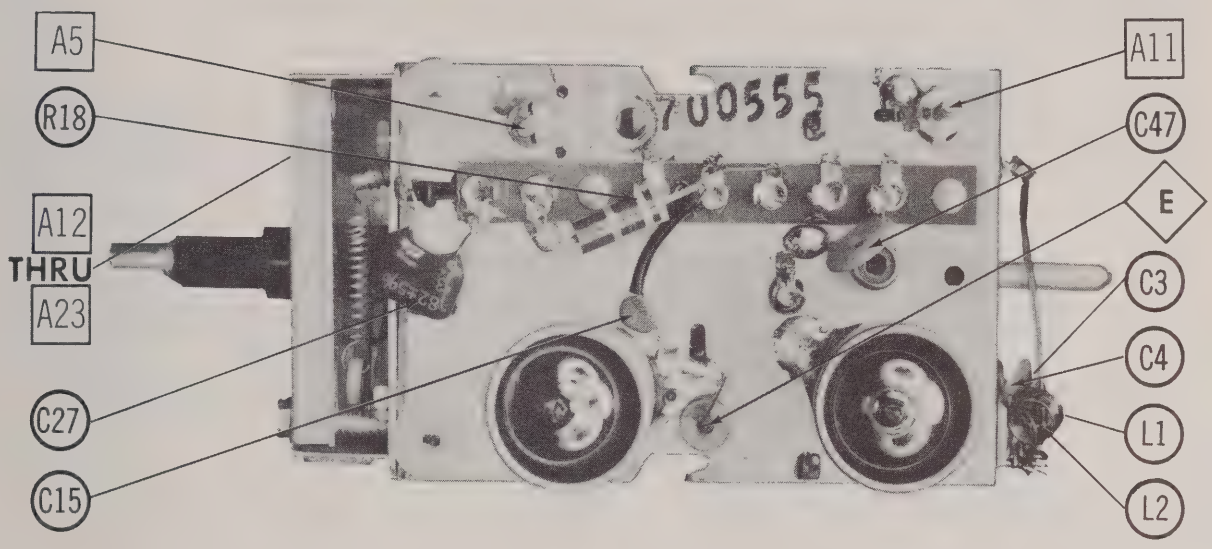
This receiver employs tubes used in a series filament network, an open filament in any tube in the series will cause the set to be inoperative (See circuit below).



SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA



CAPACITOR IDENTIFICATION



PROPERTY OF
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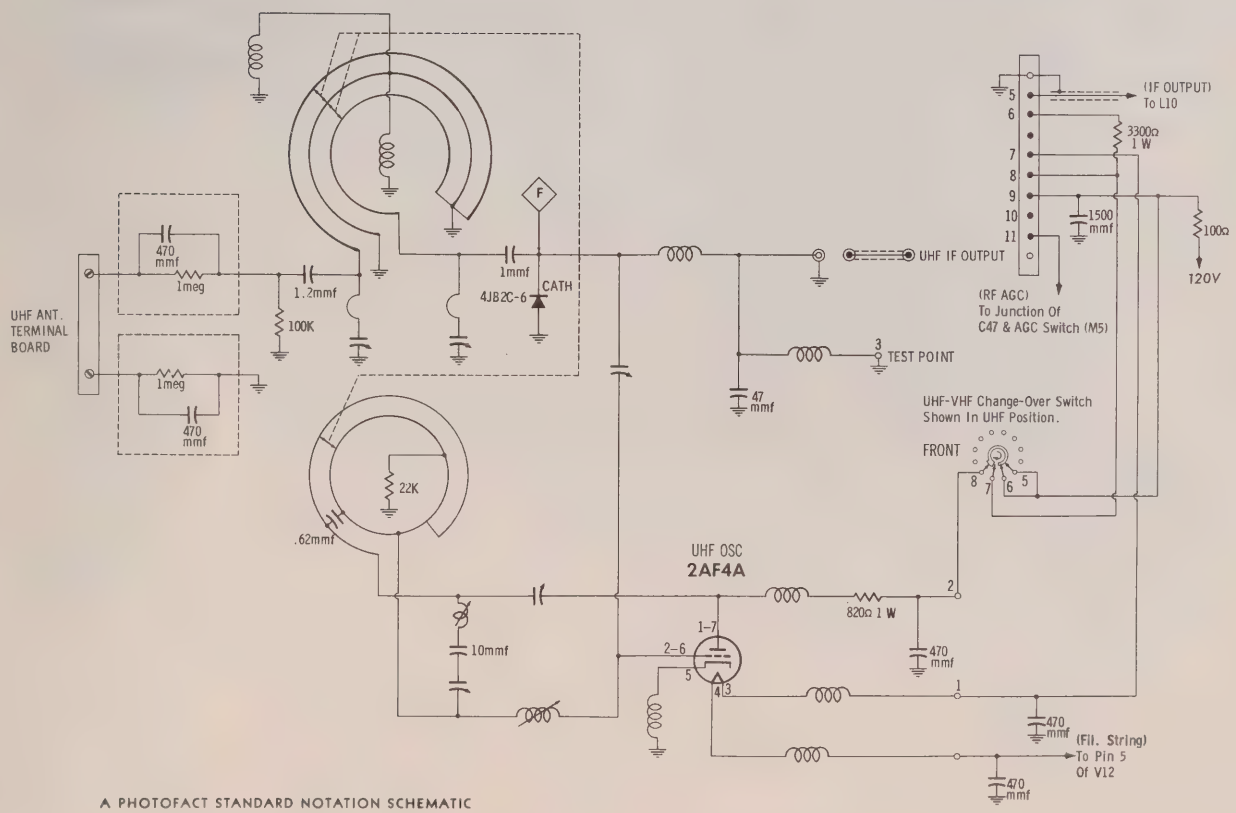
3924 MEADE ST.
DENVER, COLORADO

RF TUNER - TOP VIEW



A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALTERNATE UHF TUNER SCHEMATIC

SET 364 FOLDER 13

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.
Allow a 20 minute warm-up period for the receiver and test equipment.

VIDEO IF ALIGNMENT

Set "Local-Distant" switch to "Local" position.
Set contrast control fully counter clockwise.
Connect the negative lead of a 3 volts bias supply to point Ⓐ. Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	.001MFD	High side to point Ⓑ. Low side to chassis.	43MC (10MC Swp)	42.75MC 45.75MC	Any non-interfering channel	Vert. Amp. thru 10K to point Ⓒ. Low side to chassis.	A1, A2	Adjust for response curve similar to Fig. 1 with markers as indicated. Adjust A1 for maximum gain between markers. Adjust A2 for proper bandwidth.
2.	"	High side to point Ⓓ. Low side to chassis.	"	"	"	"	A3, A4	Adjust input to provide 3 volts peak to peak. Adjust for response similar to Fig. 2 with markers as indicated.
3.	"	High side to point Ⓔ. Low side to chassis.	"	42.75MC 45.0MC 45.75MC	12	"	A5, A6	Adjust A5 for maximum gain while placing 45.75MC marker at 50% on curve as in Fig. 3. Adjust A6 for maximum gain and symmetry with markers as indicated in Fig. 3. If necessary, retouch A1 thru A4 for desired response.

UHF IF ALIGNMENT

Connect bias as under "Video IF Alignment".
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	1000Ω Carbon Resistor	High side to point Ⓕ. Low side to tuner chassis.	43MC (10MC Swp)	42.75MC 45.0MC 45.75MC	UHF	Vert. Amp. thru 10K to point Ⓒ. Low side to chassis.	All	Adjust for maximum gain and MINIMUM tilt.

SOUND IF ALIGNMENT

1. Tune in a strong TV signal and adjust A7 for maximum sound output with MINIMUM distortion.
2. Reduce the signal strength, by using an attenuation pad, so that with the volume control set fully clockwise, the sound is just audible. Adjust A8 for MINIMUM noise and clearest sound. (If no attenuator is available, disconnect antenna and place leads in vicinity of antenna terminals.
3. Using same weak signal, adjust A9 and A10 for MINIMUM noise and clearest sound.
4. Reduce the signal further until noise is present and retouch A10 for MINIMUM noise and clearest sound.

VHF OSCILLATOR ALIGNMENT

Connect bias as under "Video IF Alignment".
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscillos cope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the fine tuning control to the center of its range.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC 215.75MC	13	Vert. Amp. thru 47K to point Ⓒ. Low side to chassis.	A12	Adjust to place sound marker in trap notch as in Fig. 4. Video marker should fall at 50%.
			207MC (10MC Swp)	205.25MC 209.75MC	12		A13	
			201MC (10MC Swp)	199.25MC 203.75MC	11		A14	
			195MC (10MC Swp)	193.25MC 197.75MC	10		A15	
			189MC (10MC Swp)	187.25MC 191.75MC	9		A16	
			183MC (10MC Swp)	181.25MC 185.75MC	8		A17	
			177MC (10MC Swp)	175.25MC 179.75MC	7		A18	
			85MC (10MC Swp)	83.25MC 87.75MC	6		A19	
			79MC (10MC Swp)	77.25MC 81.75MC	5		A20	
			69MC (10MC Swp)	67.25MC 71.75MC	4		A21	
			63MC (10MC Swp)	61.25MC 65.75MC	3		A22	
			57MC (10MC Swp)	55.25MC 59.75MC	2		A23	

VHF RF AND MIXER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

UHF ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

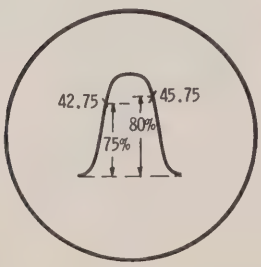


FIG. 1

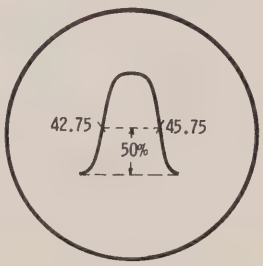


FIG. 2

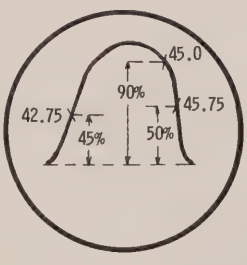


FIG. 3

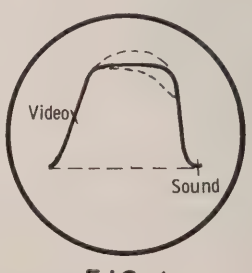
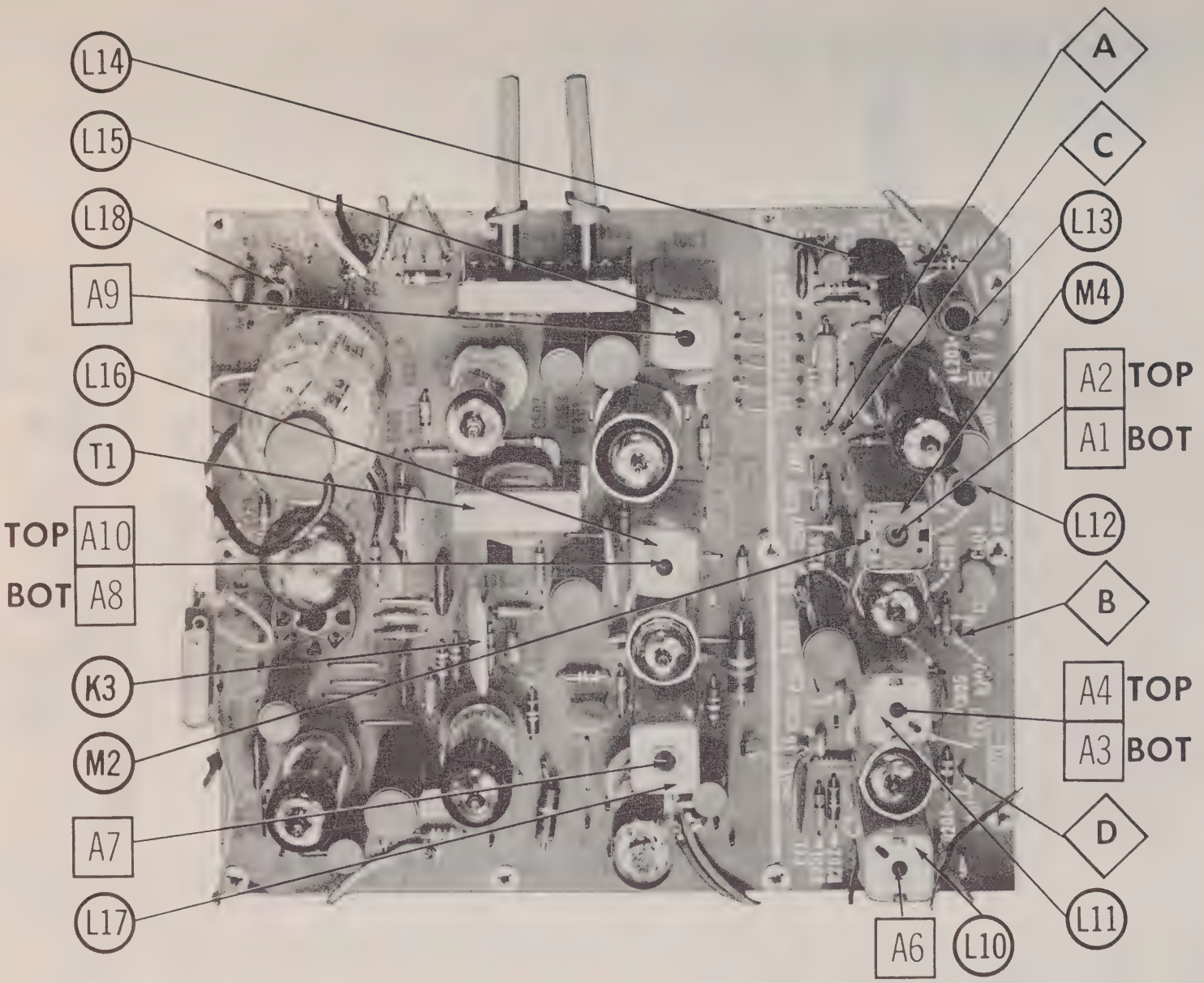
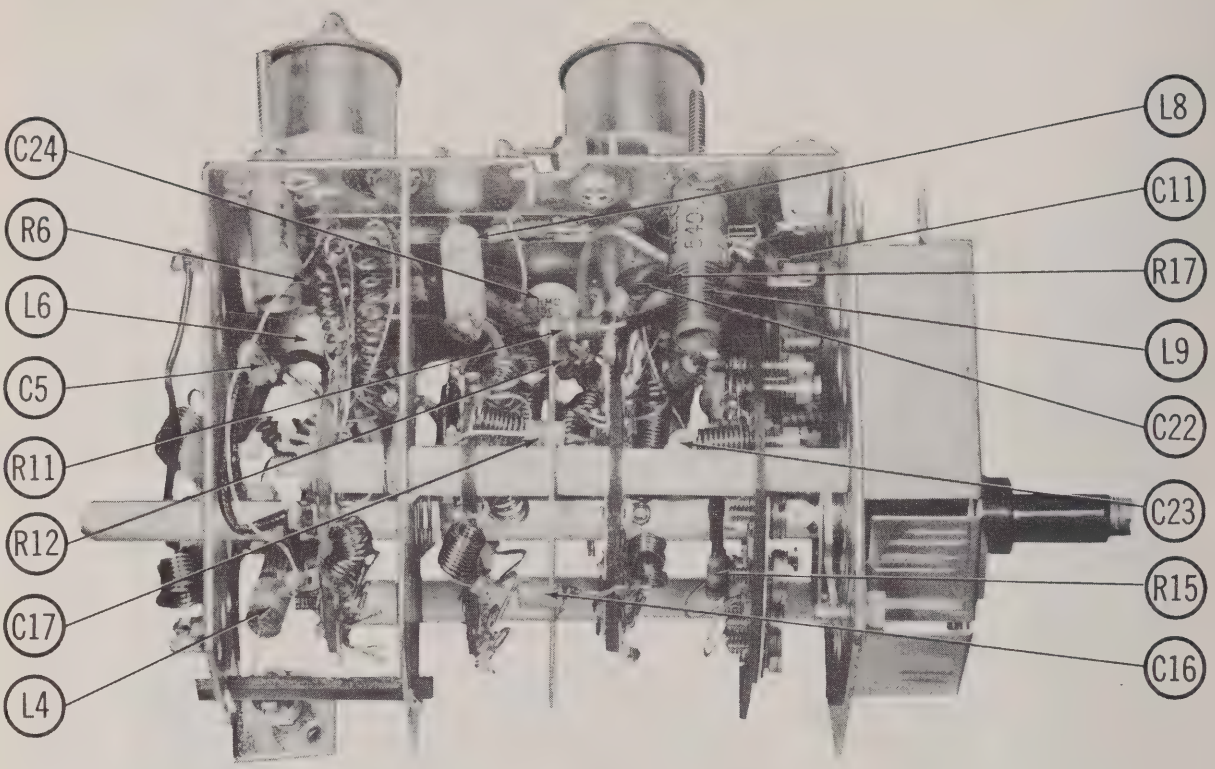


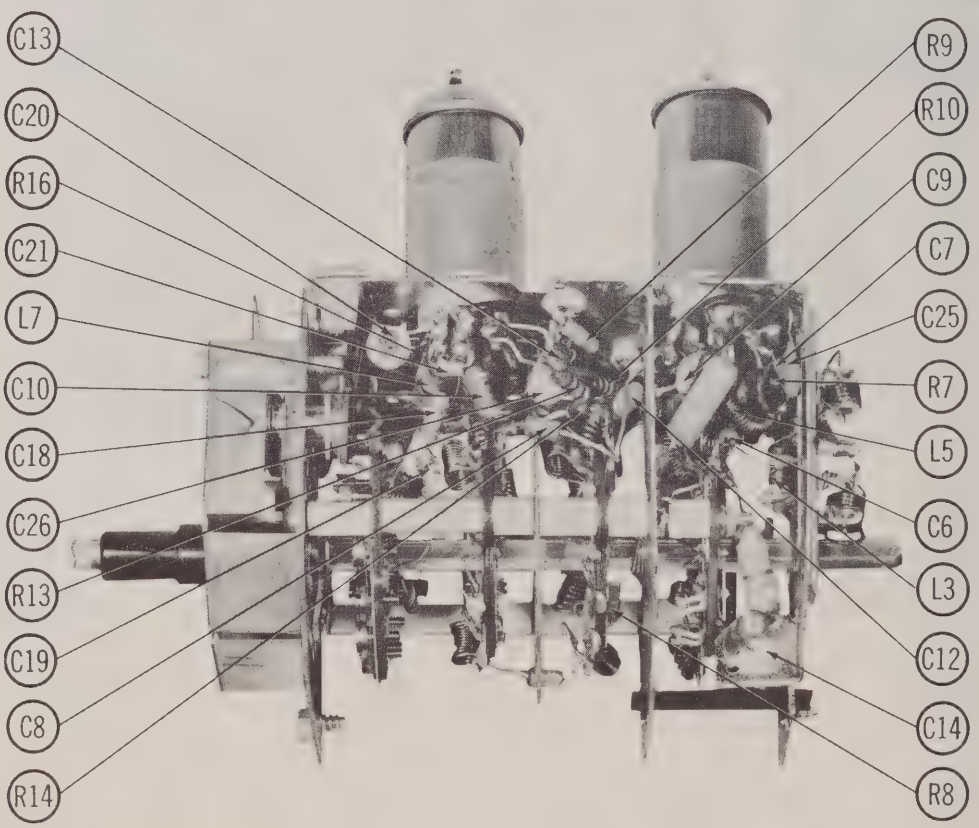
FIG. 4



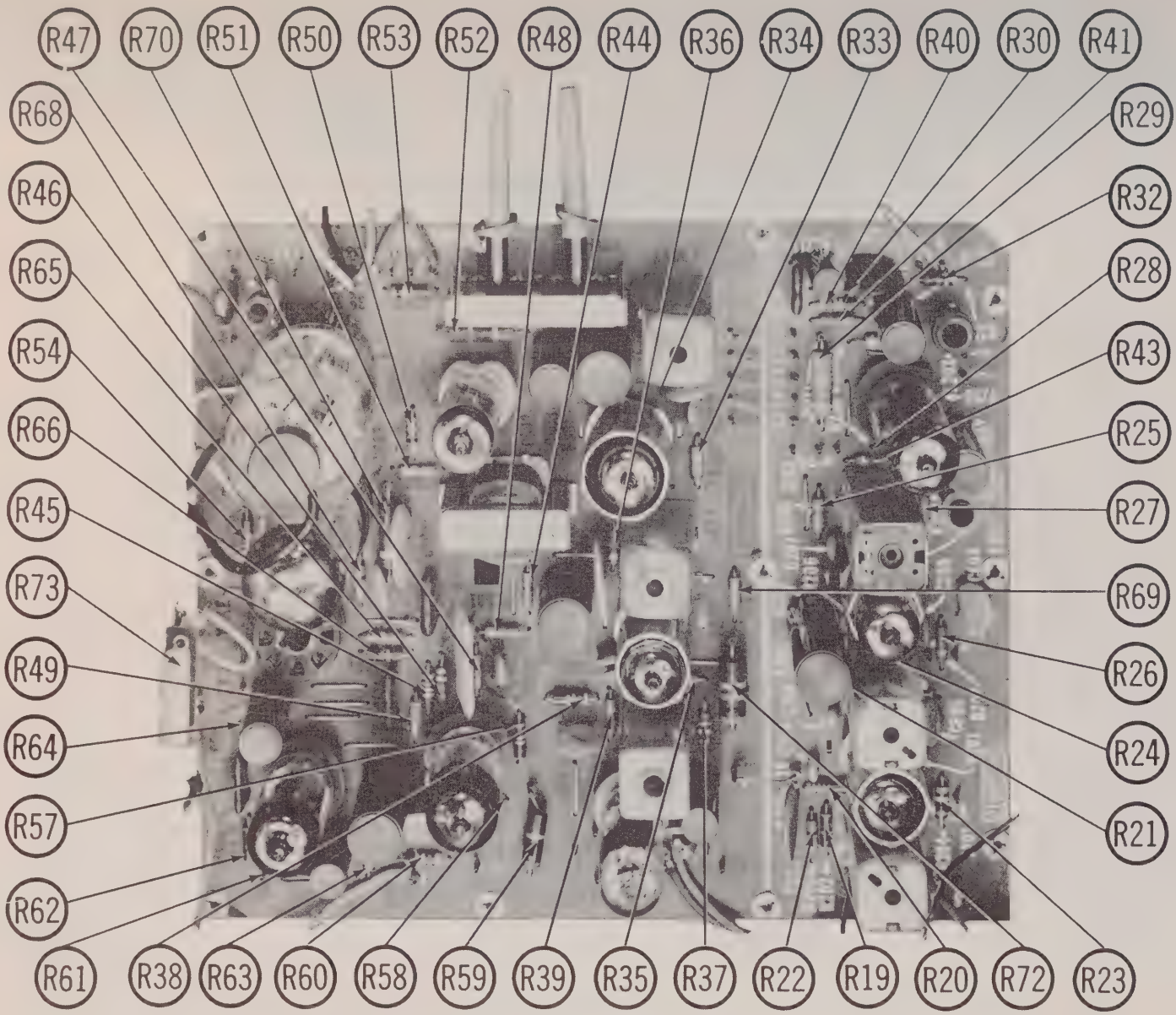
TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION



RF TUNER-LEFT SIDE



RF TUNER-RIGHT SIDE



RESISTOR IDENTIFICATION

SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	4BC8	†225Ω	1.6Meg	2.5Ω	6Ω	5.5Ω	†225Ω	1.6Meg	0Ω	0Ω
V2	5U8	†3600Ω	360K	†9K	5.5Ω	4Ω	†3500Ω	0Ω	0Ω	10K
V3	3BZ6	1.5Meg	39Ω	6Ω	7Ω	†450Ω	†450Ω	0Ω		
V4	6CB6	.1Ω	120Ω	7Ω	7.5Ω	†450Ω	†450Ω	0Ω		
V5	6AW8	0Ω	1.5Meg	‡2.7Meg	9Ω	7.5Ω	•15Ω	470K	†125Ω	†4800Ω
V6	5BR8	•1.5Meg	‡3.3Meg	0Ω	9Ω	10Ω	†6800Ω	†6800Ω	220Ω	.6Ω
V7	3DT6	4.4Ω	680Ω	10Ω	11Ω	‡470K	†6800Ω	270K		
V8	12CA5	120Ω	50K	12.5Ω	15Ω	50K	†125Ω	†210Ω		
V9	6BJ8	10Ω	5.3Meg	10Ω	12.5Ω	11Ω	5.3Meg	†2600Ω	18K	1200Ω
V10	12R5	•350Ω	•700K	1.5Ω	4Ω	•700K	†125Ω	†280Ω		
V11	6CG7	‡7500Ω	4.7Meg	2200Ω	15Ω	16.5Ω	‡180K	100K	2200Ω	0Ω
V12	25DN6	TP	25Ω	0Ω	NC	220K	NC	20Ω	†585Ω	TOP CAP ‡10Ω
V13	19AU4GTA	NC	NC	¶	NC	†25Ω	NC	16.5Ω	20Ω	
V14	1B3GT	PINS 1 THRU 8 HAVE INF RESISTANCE								TOP CAP ‡525Ω
V15	17AVP4A	0Ω	100K	PIN 6 ‡26Ω	PIN 10 ‡26Ω	PIN 11 240K	PIN 12 1.5Ω			

TP TIE POINT
NC NO CONNECTION
† MEASURED FROM OUTPUT OF M1
‡ MEASURED FROM PIN 3 OF V13
• THIS READING WILL VARY: CONTROL SET FOR NORMAL OPERATION.
¶ THIS READING CAN VARY GREATLY, (10K MINIMUM), DUE TO THE CONDITION OF THE ELECTROLYTIC CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.

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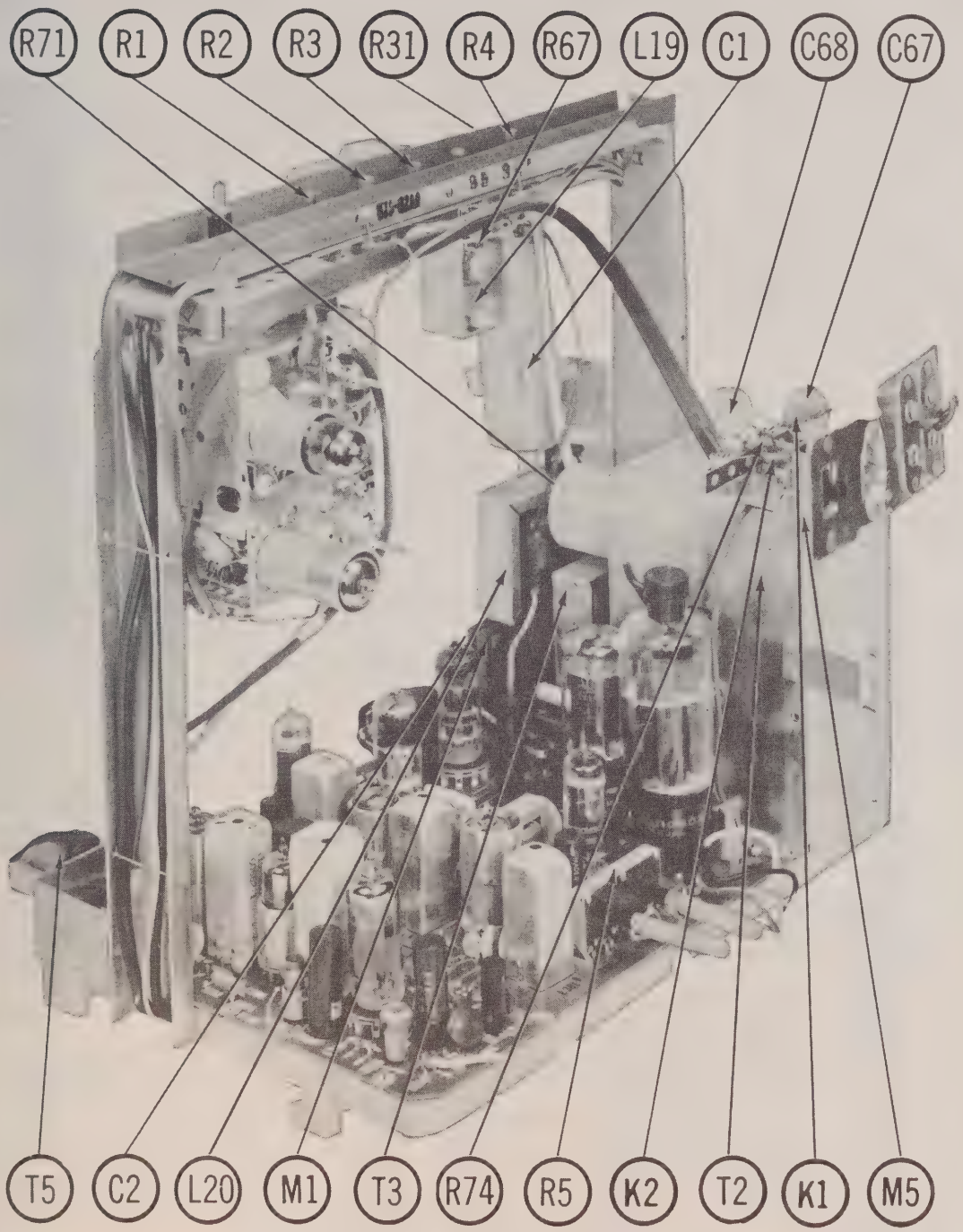


CHASSIS TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	R F Amplifier	4BC8	
V2	Mixer-Oscillator	5U8	
V3	1st Video I F Amp	3BZ6	
V4	2nd Video I F Amp	3CB6	
V5	Video-Output-Sync Sep	6AW8	
V6	Sound I F Amp Vert Osc	3BN6	
V7	Audio Det	3DT8	
V8	Audio Output	12CA5	
V9	Sync Phase Inverter-Horiz AFC	6BJ8	
V10	Vert Output	12B5	
V11	Horiz Multi	6CQ7	
V12	Horiz Output	25D8	
V13	Damper	19AU4GTA	
V14	H V Rectifier	1B3GT	

PICTURE TUBE

ITEM No.	REPLACEMENT DATA			NOTES
	SPARTAN PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V15	17AVP4A	17AVP4A ②	17AVP4A① ② 17AVP4 ① 17AVP4A, 17AVP4A1, 17AVP4A1	① Silver screen 65% Aluminized
	16SP4 16RP4A	16RP4A ②	16RP4A ① 16RP4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP	VOLT	SPARTAN PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	100	150	270021-63	AFH53-83-95	① FP41, 5 TC493				R2370 †
B	80	150							
C	200	30							
C2A	200	150	270023-25	AFH3-188	CE450	W-9275 TC46	TMT-151	T-170	TVL-3903
B	20	30							
C	80	450							

* Non-Catalog Item

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP	VOLT	SPARTAN PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	39		25075-20	N750-S1 39	TCN-39	C10Q39U	TCT-39			N750
C4	39		25075-20	N750-S1 39	TCN-39	C10Q39U	TCT-39			N750
C5	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C6	10		25022-147	NPO-S1 10	D8-100	L10Q8	ED-10	UC-540	5GA-Q8	
C7	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C8	18		25016-4							
C9	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C10	15		25067-5	NPO-S1 15	TCZ-15	L15Q8	ED-15	UC-5425	5GA-Q15	
C11	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C12	100		25175-24		TCA-100					N330
C13	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C14			25018-6							
C15	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	Note 1
C16	18		25016-5							
C17	2		25022-15	NP0-S1 2	TCZ-1					
C18	10		25068-36	S1 10	D8-100	L10Q8	ED-10	2T-541	5GA-Q8	
C19	6		25068-143							
C20	470		25028-5	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C21	6.8		25022-45	NPO-S1 6.8	TCZ-6R8	CC10Y6C	TCC-6.8	UC-5388	5GCB-Y6R8	
C22	470		25075-8	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C23	1500		25068-144		BPD-0015	DD-152	BYA10D15	ED-0015	DC5215	5HK-D15	N2200
C24	1500		25073-00		BPD-0015	DD-152	BYA10D15	ED-0015	DC5215	5HK-D15
C25	1500		25075-00		BPD-0015	DD-152	BYA10D15	ED-0015	DC5215	5HK-D15
C26	1500		25075-10		BPD-0015	DD-152	BYA10D15	ED-0015	DC5215	5HK-D15
C27	82		25022S-328		BPD-00008J	DE-820	L10Q82	ED-82	UC-5482	5GA-Q82
C28	680		25024A-138		BPD-0068	DD-681	BYA10T68	ED-680	UC-5388	5GA-T68
C29	10000		25024A-66		BPD-01	DD-103	BYA8S1	CP-10000	DC5S1	5HK-S1
C30	680		25024A-138		BPD-0068	DD-681	BYA10T68	ED-680	UC-5388	5GA-T68
C31	680		25024A-138		BPD-0068	DD-681	BYA10T68	ED-680	UC-5388	5GA-T68
C32	.1	200	25034D-13				BC82P15		ACE401	2SE-P10
C33	.1	200	25034D-13				BC82P15		ACE401	2SE-P10
C34	10000		25024A-66		BPD-01	DD-103	BYA8S1	ED-01	DC5S1	5HK-S1
C35	4.7		25032J-123		NP0-S1 4.7	TCZ-4R7	C10Y4TC	TCC-4.7	DT-5547	5TCCB-Y47
C36	120		25025A-3		BPD-0012	DD-121	L2P12	ED-120	UC-5312	5GA-T12
C37	820		25024A-140		BPD-0082	DE-821	BYA10T82	ED-820	UC-5382	5GA-T82
C38	5000		25032H-1		BPD-005	DD-502	BYA5D1	ED-005	DC5J5	5HK-D5
C39	1000		25032H-42		BPD-001	DD-102	BYA8D1	ED-1000	DC521	5HK-D1
C40	5000		25032H-1		BPD-005	DD-502	BYA10D5	ED-005	DC5J5	5HK-D5
C41	5000		25032H-68		BPD-01	DD-501	BYA8S1	ED-01	DC5J1	5HK-S5
C42	.047	300	25034D-11				BC84UJ		ACE147	4SE-S47
C43	5000		25032H-1		BPD-005	DD-502	BYA10D5	ED-005	DC5J5	5HK-D5
C44	5000		25032H-1		BPD-005	DD-502	BYA10D5	ED-005	DC5J5	5HK-D5
C45	.22	300	25034D-68				BC82P33J		ACE402	2SE-P22
C46	680		25024A-138		BPD-0068	DE-681	BYA10T68	ED-680	UC-5388	5GA-T68
C47	1500		25032H-18		BPD-0015	DD-152	BYA10D15	ED-0015	DC5J15	5HK-D15
C48	15		25024D-11				BC82EJ		ACE401	2SE-S15
C49	82	300	25034D-534		BPD-00008J	DE-820	L10Q82	ED-82	UC-5482	5GA-Q82
C50	.1	600	25034D-13				BC84PJ		ACE601	4SE-P10
C51	3900		25032H-468		BPD-004	DE-402	BYA10D4	ED-004	UC-5339	5HK-D39
C52	.047	600	25034D-11				BC84UJ		ACE147	4SE-S47
C53	.1	600	25034D-13				BC84PJ		ACE601	4SE-P10
C54	.047	600	25034D-11				BC84UJ		ACE147	4SE-S47
C55	5000		25032H-24		BPD-001	DD-103	BYA8S1	ED-1000	DC5J1	5HK-D5
C56	1000		25032H-24		BPD-001	DD-103	BYA8S1	ED-1000	DC521	5HK-D1
C57	.047	600	25034D-23				BC86S4J		ACE-568	4SE-S68
C58	4700		25032H-158		BPD-0047	DE-472	BYA10D47	ED-0047	DC5247	5GA-D47
C59	.047	300	25034D-11				BC82UJ		ACE147	2SE-S47
C60	470		25032H-346		BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47
C61	3900		25032H-468		BPD-004	DE-402	BYA10D4	ED-004	UC-5339	5GA-D39
C62	470		25032H-346		BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47
C63	1500		25032H-146		BPD-0015	DD-152	BYA10T15	ED-0015	DC5J5	5HK-D15
C64	120	4000	25032H-2				D2M0-12			
C65	1500		25032H-46		BPD-0015	DD-152	BYA10D15	ED-0015	DC5J15	5HK-D15
C66	1500		25032H-46		BPD-0015	DD-152	BYA10D15	ED-0015	DC5J15	5HK-D15
C67	10000		25032H-66		BPD-01	DD-103	BYA8S1	ED-01	DC5J1	5HK-S1
C68	10000		25032H-5		BPD-01	DD-103	BYA8S1	ED-01	DC5J1	5HK-S5
C69	500		25032H-5			BPD-501	LJQT3	ED-500	UC-533	5GA-T3

Note 1. A 1500MMF may be used in this application.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	SPARTAN PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	500K		230126-55	B-50	A47-500K-Z	Q33-133	U48	Volume
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
C	Switch			KB-1	SWZ-12	76-1	US-16	
R2	200K		230123-6				TA1841	Brightness
R3	1.25Meg		230132-7				TA1551	Vert. Hold
R4	200Ω		230126-54	B-705	A47-200Ω-B	Q47-110	U7	Contrast
R5A	1.25Meg		230137-1					Vert. Size
B	300Ω							Vert. Lin

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	SPARTAN PART No.	IRC PART No.	
R6	100K		231014-86	BTS-100K	
R7	100K		231014-86	BTS-100K	
R8	82000		231014-73	BTS-8200	
R9	33K		231014-80	BTS-33K	
R10	330K		231014-92	BTS-330K	
R11	33000		231014-68	BTS-3300	
R12	10K		231014-74	BTS-10K	
R13	47K		231014-82	BTS-47K	
R14	680Ω		231014-64	BTS-680	
R15	10K		231014-74	BTS-10K	
R16	10K		231014-74	BTS-10K	
R17	150Ω		231014-53	BTS-150	
R18	3300Ω	1	231014-68	BTA-3300	
R19	1000Ω		231014-62	BTS-1000	
R20	33K 5%		231004-198		
R21	330Ω		231014-56	BTS-330	
R22	100Ω		231014-50	BTS-100	
R23	10Ω		231014-45	BTS-10	
R24	18K 5%		231004-187	BTS-18K 5%	
R25	330Ω		231014-58	BTS-330	
R26	1200		231014-51	BTS-130	
R27	47000 5%		231004-175	BTS-4700 5%	
R28	470K		231014-94	BTS-470K	
R29	4700Ω	1	231015-70	BTA-4700	
R30	10K		231014-74	BTS-10K	
R31	680Ω		231014-60	BTS-680	Note 1
R32	220K		231014-90	BTS-220K	
R33	68000		231014-73	BTS-6800	
R34	220Ω		231014-54	BTS-220	
R35	68000Ω		231014-72	BTS-6800	
R36	680Ω		231014-60	BTS-680	
R37	270K		231014-91	BTS-270K	
R38	470K		231014-94	BTS-470K	
R39	330Ω		231014-51	BTS-130	
R40	470K		231014-94	BTS-470K	
R41	1.5Meg		231004-100	BTS-1.5Meg	

Note 1 Not used in some versions.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	SPARTAN PART No.	IRC PART No.	
R42	20Meg 5%		231004-163	BTS-20Meg 5%	
R43	1.5Meg		231014-100	BTS-1.5Meg	
R44	2.7Meg 5%		231004-241	BTS-2.7Meg 5%	
R45	470K		231014-94	BTS-470K	
R46	22K		231014-78	BTS-22K	
R47	10000 5%		231004-159	BTS-1000 5%	
R48	15000 5%		231004-163	BTS-1500 5%	
R49	12000 5%		231004-161	BTS-1200 5%	
R50	1Meg 5%		231004-231	BTS-1Meg 5%	
R51	3.3Meg 5%			BTS-3.3Meg 5%	
R52	1000Ω	1	231015-53	BTA-100	
R53	100K		231014-86	BTS-100K	
R54	47000Ω		231014-170	BTS-4700	
R55	270Ω		231014-55		
R56	470Ω		231014-55		
R57	100K		231014-86		
R58	100K		231014-86		
R59	100Ω	1	231015-16		
R60	470K		231014-94		
R61	4.7Meg		231014-106		
R62	75000Ω 5%		231004-180		
R63	22000 5%		231004-167		
R64	100K 5%		231004-207	BTS-100K 5%	
R65	180K 5%		231004-213	BTS-180K 5%	
R66	22K 5%		231004-191	BTS-22K 5%	
R67	33K		231014-80		
R68	300K 5%		231004-214	BTS-300K 5%	
R69	18K 5%		231004-189	BTS-18K 5%	
R70	6800Ω	1	231015-59	BTA-580	
R71	3.3Ω	1	232017-4	BWL-3.3	
R72	100Ω	2	231146-50	BTS-100	
R73	5Ω		240074-1	FRS-5	
R74	330K		231014-90	BTS-220K	

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA							
		SPARTAN PART No.	Halldorson PART No.	Merit PART No.	RCA TYPE No.	Rom PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	Vert Osc Trans.	230270-1							
T2	Horiz. Output Trans.	230659-1		HVO-133			HO-266 ①		
T3	Vert. Output Trans.	230289-1	21900 ① ②	A-2521 ③	V314 ③		A-6149 ①	26875 ① ② ③	A-118X ④
T4A	Yoke (90°) Horiz. (30MC)	230680-1	DF607 ⑤ ⑦	MDF-52 ⑤ ⑦	2155H-5 ⑦	Y90Y19/43 ⑤ ⑦	DY-15A ⑤ 7	Y-16 ⑤ 7	Y-41 ⑤ YCI ⑤ CLI ⑤
B	Vert. (48.5MC)	230658-1 ⑤							

① Use T to 1 turns ratio.
② Connect as auto transformer.
③ Drill new mounting hole(s).
④ Cut and tape blanking lead.
⑤ Yoke rear cover and centering device.
⑥ Use original yoke damping network.
⑦ Use original rear cover and centering device.
⑧ Yoke clamp.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

ORIGINAL TERMINAL (CONNECTIONS)	Halldorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Rom Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
1					1		
2					2		
3					3		
4					4		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	SPARTAN PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T5	3400Ω	3-4Ω	230265-1	21U05 ① ②	A-2998	A-2321	22646 ①	S-16X ① ②

① Drill new new mtg. hole.
② Tape taps on primary windings
③ Tape tap on primary winding

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP	SPARTAN PART No.	QUAM PART No.	
SP1	4"× 6"	PM	3-4Ω	CS60045-1	40A1	

COILS (RF-IF)

ITEM No.	USE	SPARTAN PART No.	NOTES
L1	IF Trap Coil	360415-38	
L2	IF Trap Coil	360415-38	
L3	Ant. Trans.	360492-1	
L4	R F Choke	360001-8	
L5	R F Choke	360415-66	
L6	R F Choke	360601-5	
L7	R F Choke	360601-9	
L8	R F Choke	360601-6	
L9	Mixer Plate Coil	360640-1	

ITEM No.	USE	REPLACEMENT DATA				NOTES
		SPARTAN PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L10	1st. Video IF	360661-1				
L11	2nd. Video IF	360662-1				
L12	Shunt Peaking Coil	360667-3	19-4400	6136	430	Microhenries
L13	Series Peaking Coil	360667-1	19-4301	6194	325	Microhenries
L14	Shunt Peaking Coil	360667-3	19-4350	6161	325	Microhenries
L15	1st. Sound IF	360664-1				
L16	2nd. Sound IF	360663-1				
L17	Quadrature Coil	360666-1				
L18	Line Choke	360670-1				1.7 Microhenries

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA							NOTES
	PRI.	SEC.	SPARTAN PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Rom PART No.	Thordarson PART No.	
L19	88Ω		360669-1							

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT (000 ^A)	SPARTAN PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L20	250Ma	34Ω	9 H	230268-1.	C5037 ①	C-3296 ①	C-3238 ①	28C44	C-33X

① Drill one new mounting hole.

TRANSFORMER

ITEM No.	USE	REPLACEMENT DATA							NOTES
		SPARTAN PART No.	Halldorson PART No.	Merit PART No.	RCA TYPE No.	Rom PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T6	Vert. Output Trans.	230289-1	21900 ① ②	A-2521 ③	V314 ③		A-6149 ①	26875 ① ② ③	A-118X ④

① Drill one new mounting hole.
② Connect as auto transformer.
③ Use original yoke damping network.
④ Cut and tape blanking lead.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SPARTAN PART No.	REPLACEMENT DATA
K1	Ant. Input	470MMF, 1Meg	250323-1	
K2	Ant. Input	470MMF, 1Meg	250323-1	
K3	Vert. Integrator	3000MMF, 3000MMF, 5000MMF, 22K, 82000, 82000	250332-1	Aerovox PA-10 Centralab PC-100 Cornell-DubiLier 1U7M3 Erie 1456-01 Sprague V-1

RECTIFIERS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CURRENT (Measured)		SPARTAN PART No.	FEDERAL PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	
M1	285A		5S30041-1 ①	1032A ①	1N1007 ②	MR350 ①	6S350 ①	350A ①	

① Selenium type . ② Germanium type.

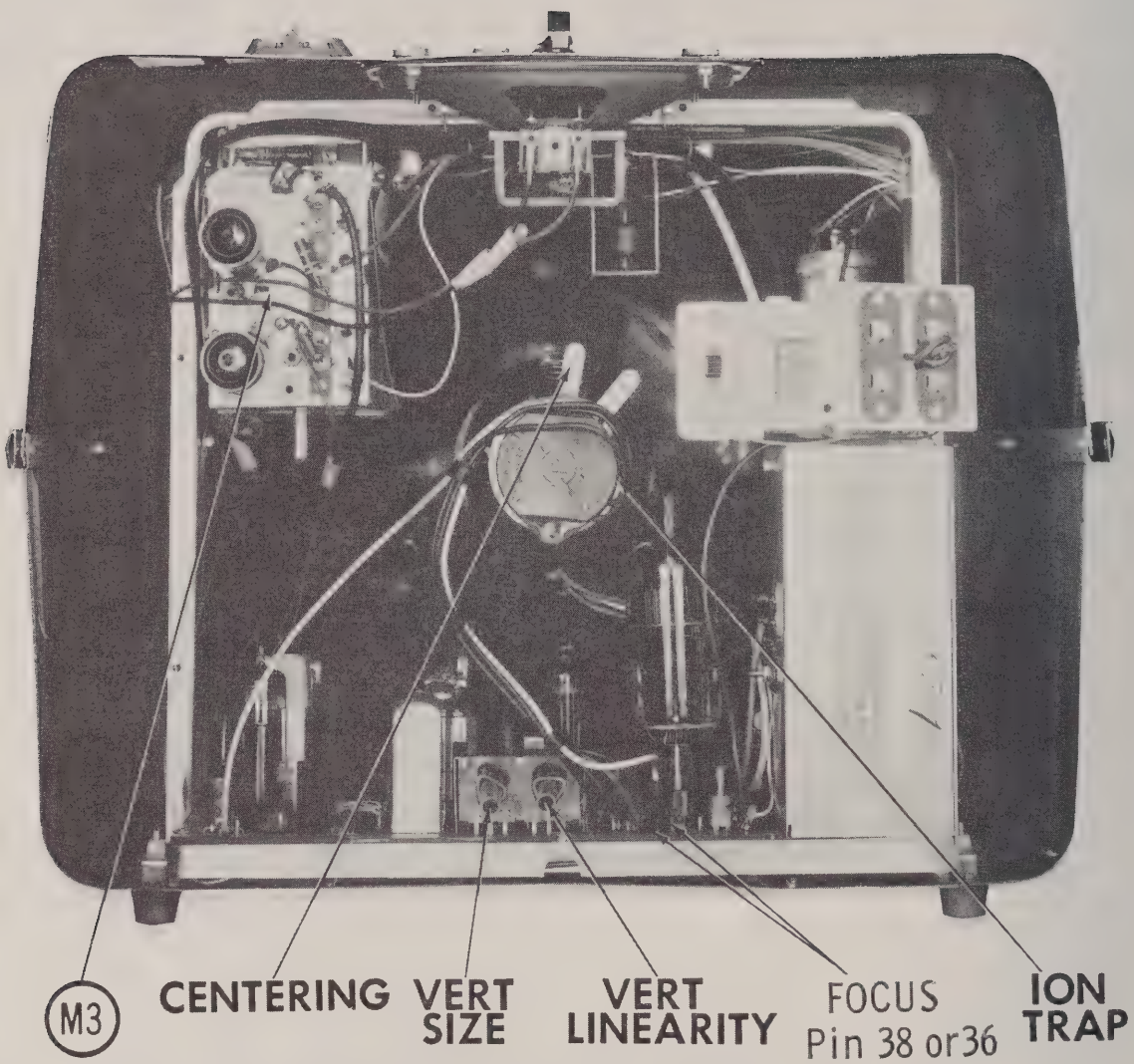
CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		SPARTAN PART No.	SYLVANIA PART No.	
M2	1N94		1N80	Video Detector (Clip-In)

MISCELLANEOUS

ITEM No.	PART NAME	SPARTAN PART No.	NOTES
M3	Tuner	700555-1	VHF
	Tuner	700558-1	UHF
M4	Video Det. Assy.	350868-1	Includes 3rd. Video IF, Series Peaking Coil, Cap., resistor and M3
M5	Switch	160373-1	Strong-Normal-Distant, Slide Type (DPDT)
M6	Centering Device	350858-1	Not used in early versions.
M7	Ion Trap	350492-5	Includes Yoke Rear cover
	Printed Board	210003-8	Video
	Printed Board	210004	Sound-Sync

SPARTAN CHASSIS U19-01AA, U19-02AA, V19-01AA, V19-02AA



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

1. Turn the set on and tune in a TV station, preferably with a test pattern.

2. Set the brightness and contrast controls for a normal picture.

3. Loosen set screw and turn the horizontal hold clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.

4. Turn the horizontal hold slowly counter clockwise until the picture just falls into sync. Tighten set screw.

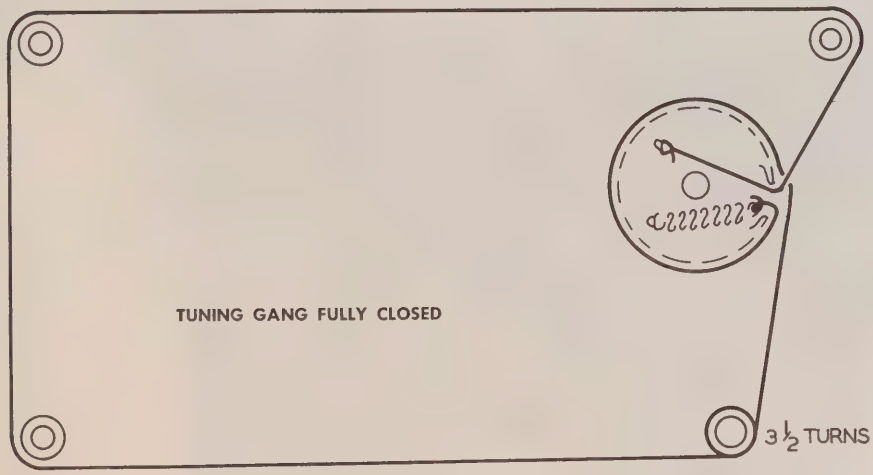
STROMBERG-CARLSON MODEL SR-406

STROMBERG-CARLSON MODEL SR-406

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

STROMBERG-CARLSON MODEL SR-406

TRADE NAME	Stromberg-Carlson Model SR-406		
MANUFACTURER	Stromberg-Carlson Co., Service Dept., 1700 University Ave., Rochester 10, N. Y.		
TYPE SET	AC Operated FM-AM Receiver		
TUBES	Seventeen		
POWER SUPPLY	110-120 Volts AC-60 Cycles	RATING	1.4 Amp. @ 117 Volts
TUNING RANGE - BROADCAST	540 KC-1620KC	FREQ. MOD.	88MC-108MC



DIAL CORD STRINGING

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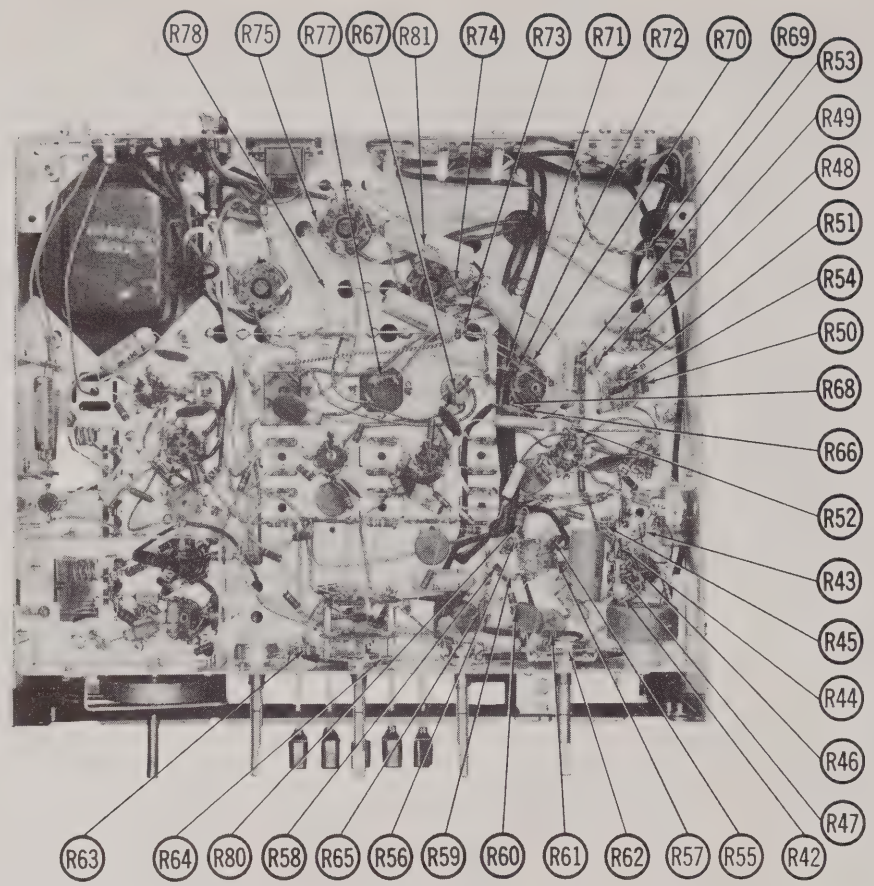
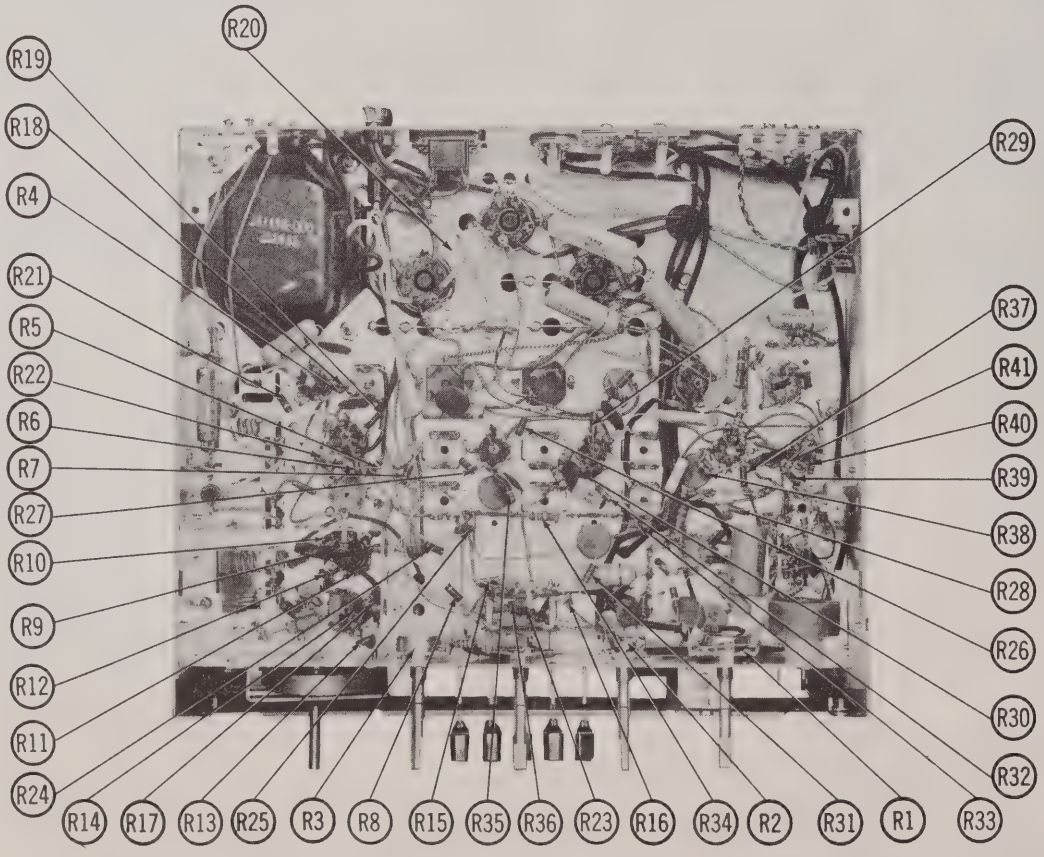
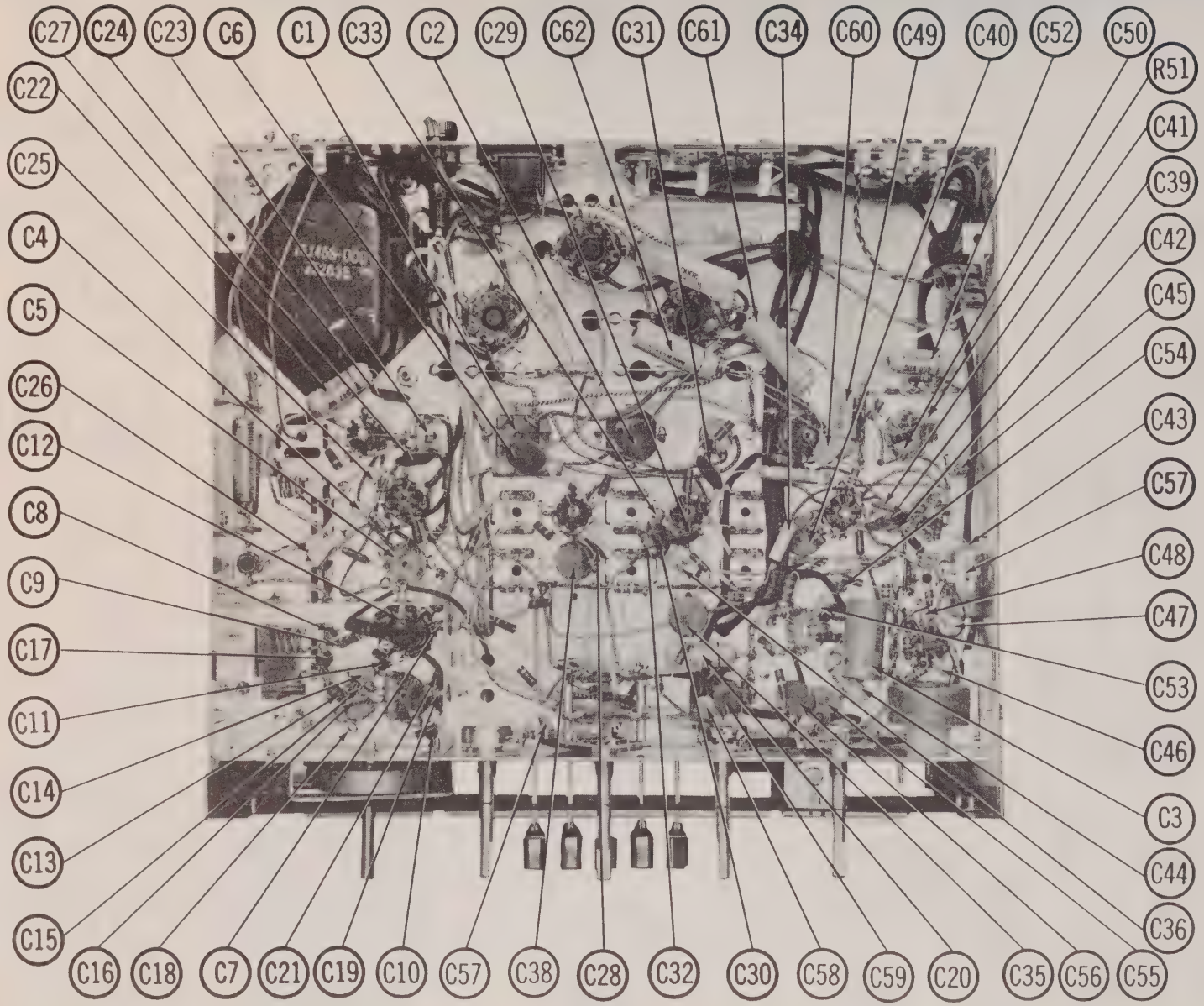


CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION



CHASSIS-BOTTOM VIEW-RESISTOR IDENTIFICATION



PROPERTY OF
L. F. BLANKENSHIP
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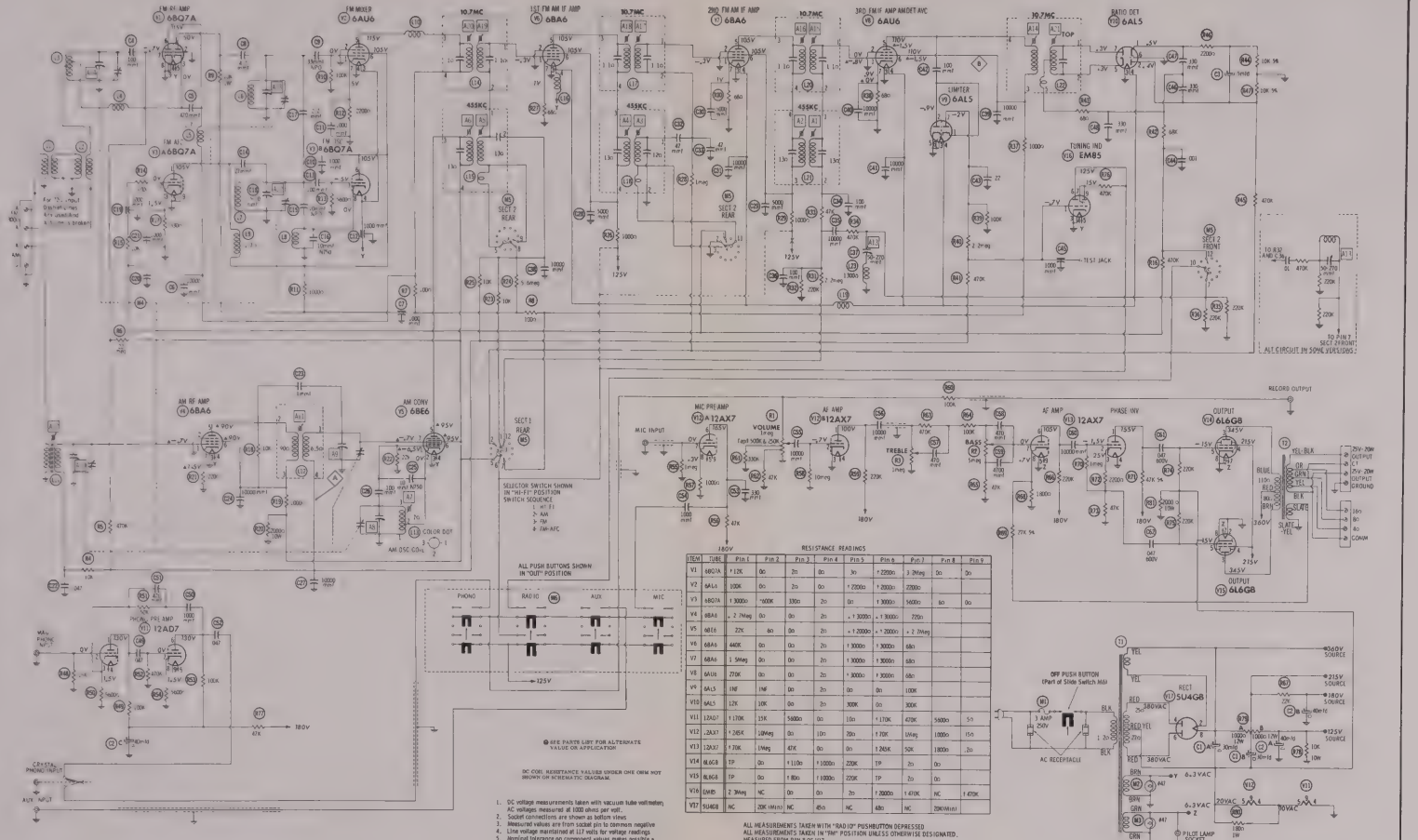
DENVER, COLORADO

CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

STROMBERG-CARLSON
MODEL SR-406



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BQ7A	↑12K	0Ω	2Ω	0Ω	3Ω	↑ 220Ω	3.2MEG	2Ω	2Ω
V2	6AU6	100K	0Ω	2Ω	0Ω	↑ 2000Ω	↑ 2000Ω	220Ω		
V3	6BQ7A	↑ 3000Ω	↑600K	330Ω	2Ω	0Ω	↑ 3000Ω	56000Ω	6Ω	0Ω
V4	6BA6	∞ 2.7MEG	0Ω	0Ω	2Ω	∞ ↑ 3000Ω	∞ ↑ 3000Ω	220Ω		
V5	6BE6	22K	6Ω	0Ω	2Ω	∞ ↑ 2000Ω	∞ ↑ 2000Ω	∞ 2.7MEG		
V6	6BA6	440K	0Ω	0Ω	2Ω	↑ 3000Ω	↑ 3000Ω	68Ω		
V7	6BA6	↑ 5MEG	0Ω	0Ω	2Ω	↑ 3000Ω	↑ 3000Ω	68Ω		
V8	6AU6	270K	0Ω	0Ω	2Ω	↑ 3000Ω	↑ 3000Ω	68Ω		
V9	6AL5	INF	INF	0Ω	2Ω	0Ω	0Ω	100K		
V10	6AL5	12K	10K	0Ω	2Ω	300K	0Ω	300K		
V11	12AD7	↑ 170K	15K	5600Ω	0Ω	10Ω	↑ 170K	470K	5600Ω	5Ω
V12	12AX7	↑ 245K	10MEG	0Ω	10Ω	20Ω	↑ 70K	1MEG	1000Ω	15Ω
V13	12AX7	↑ 70K	1MEG	47K	0Ω	0Ω	↑ 240K	50K	1800Ω	2Ω
V14	6LG8	TP	0Ω	↑ 110Ω	↑ 1000Ω	220K	TP	2Ω	0Ω	
V15	6LG8	TP	0Ω	↑ 80Ω	↑ 1000Ω	220K	TP	2Ω	0Ω	
V16	EM85	2.3MEG	NC	0Ω	0Ω	2Ω	↑ 2000Ω	1.47M	NC	↑ 470K
V17	5U4GB	NC		20K (MIN)	NC	45Ω	NC	48Ω	NC	20K(MIN)

1. DC voltage measurements taken with vacuum tube voltmeter.
2. AC voltages measured at 1000 ohms per volt.
3. Socket connections are shown as bottom views.
4. Measured values are from socket pin to common negative
5. Line voltage maintained at 117 volts for voltage readings
6. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings
7. Volume control at maximum, no signal applied for voltage measurements

ALL MEASUREMENTS TAKEN WITH "RADIO" PUSHBUTTON DEPRESSED
ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
MEASURED FROM PIN 8 OF V17
MEASURED IN "FM-AFC" POSITION
MEASURED IN "AM" POSITION
NO CONNECTION
TIE POINT

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

◉ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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364-14

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Complete "AM" alignment before starting "FM". With tuning gang closed, adjust pointer to "0" on logging scale.

AM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1	.01MFD	High side to pin 7 (grid) of 6BE6 (V5). Low side to chassis.	455KC (400~ Mod.)	AM (Sharp)	Low frequency end of dial	DC probe to point (A). Common to chassis.	A1, A2, A3, A4, A5, A6	Adjust for maximum deflection.
2	200MMF	Across AM ant. terminals	600KC	"	600KC	"	A7	"
3	"	"	1400KC	"	1400KC	"	A8, A9, A10	"
4	"	"	600KC	"	600KC	"	A7, A11, A12	Adjust for maximum deflection. Repeat step 2, 3 & 4 until proper tracking is obtained.
5	.01MFD	High side to pin 1 (grid) of 6BA6 (V7). Low side to chassis.	455KC (10KC Mod.)	"	Low frequency end of dial	AC voltmeter across output.	A13	Adjust for MINIMUM reading.

AM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
1	.01MFD	High side to pin 7 (grid) of 6BE6 (V5). Low side to chassis.	455KC (25KC Swp.)	AM (Sharp)	Low frequency end of dial	Across recorder output jack	A1, A2 A3, A4, A5, A6	Short pin 1 (grid) of 6BE6 (V5) to chassis. Adjust for curve of maximum amplitude and symmetry similar to Fig. 1.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
6	.1MFD	High side to pin 1 (grid) of 6AU6 (V2). Low side to chassis.	10.7MC (unmod.)	FM (AFC off)	100MC	DC probe to "Test Jack"	A14, A15 A16, A17 A18, A19 A20	Adjust for maximum deflection.
7	"	"	"	"	"	DC probe across recorder output jack	A21	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60~ modulation and 450KC sweep. Use 120~ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
8	.1MFD	High side to pin 1 (grid) of 6AU6 (V2). Low side to chassis.	10.7MC (450KC Swp)	FM (AFC off)	100MC	Vert amp. thru .01MFD to point (B). Low side to chassis.	A14, A15, A16, A17, A18, A19, A20	Adjust for curve of maximum amplitude and symmetry similar to Fig. 2.
9	"	"	"	"	"	Scope across recorder output jack.	A21	Adjust so that 10.7MC occurs at center of crossover lines similar to Fig. 3. SLIGHTLY retouch A14 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
10	120Ω Carbon Resistor	Across FM ant. terminals with 120Ω in each lead	100MC (25KC Swp.)	FM (AFC off)	100MC	DC probe to point (A). Common to chassis.	A22, A23 A24	Adjust for maximum deflection.
11	"	"	"	"	"	"	L3, L6, L7	Using 100MC as a reference, check dial calibration and sensitivity at 88, 90, 106 and 108MC. If this check shows excessive variation, compress or expand L3, L6 and L7. Repeat steps 10 & 11 until proper tracking has been obtained.

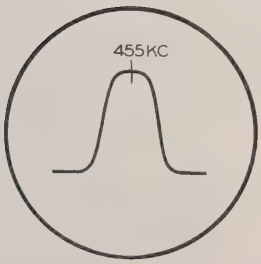


FIG. 1

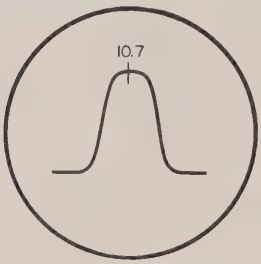


FIG. 2

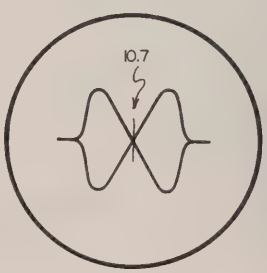
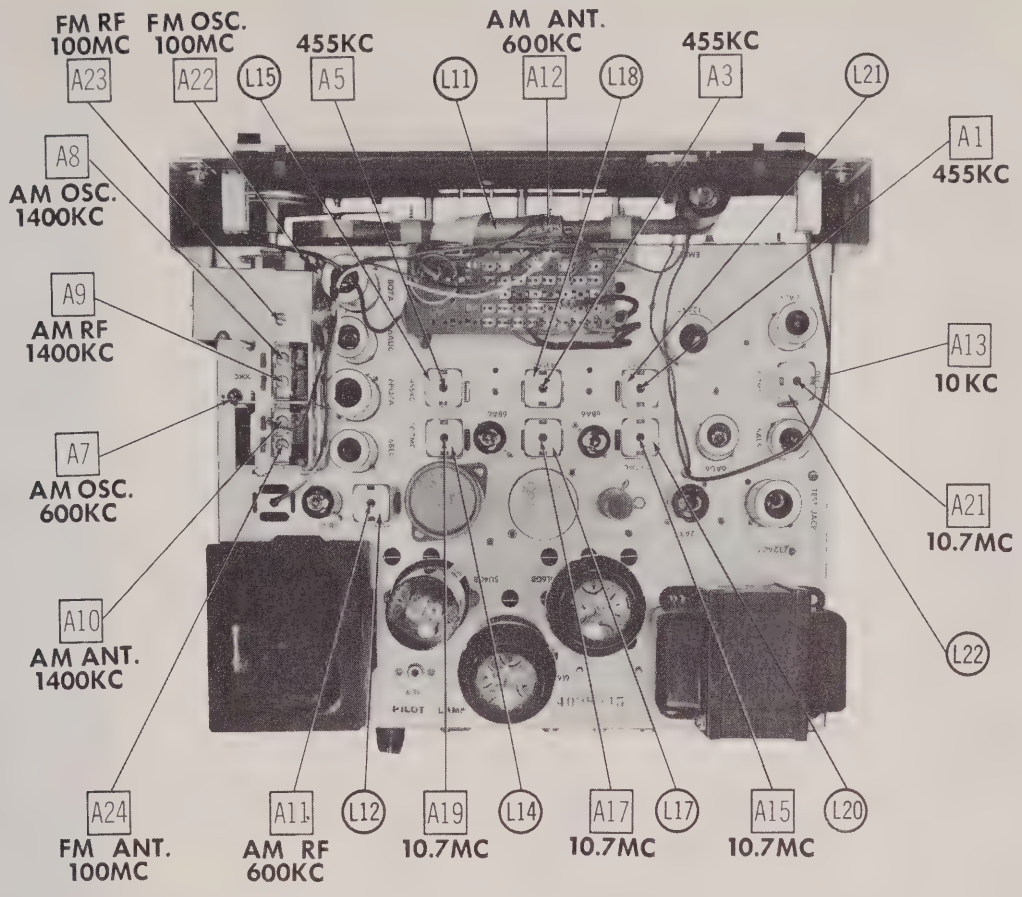
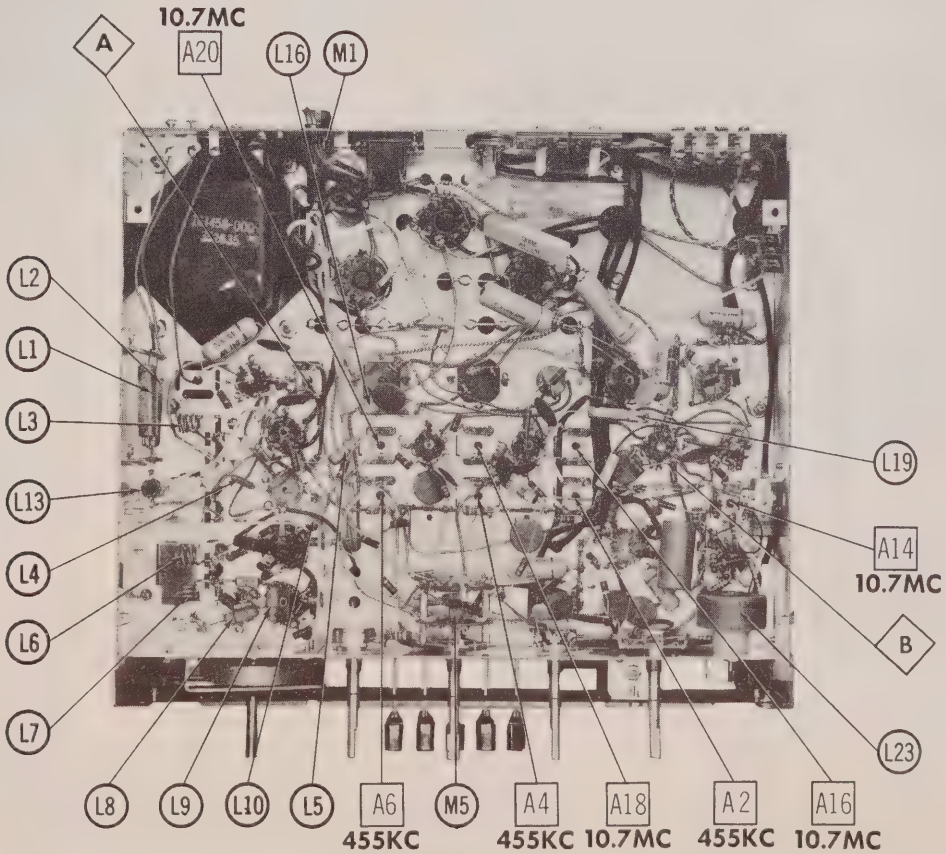


FIG. 3



CHASSIS TOP VIEW - ALIGNMENT & INDUCTOR IDENTIFICATION



CHASSIS BOTTOM VIEW - ALIGNMENT & INDUCTOR IDENTIFICATION

PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	Stromberg-Carlson PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	1Meg	½	145210-000	ABT-165		Q18-137XX	UDT-289	Volume, Tap @ 250K & 500K
B	Shaft			AK-3		Not req.	Not req.	
R2A	5Meg	½	145211-000	AB-88	A47-5Meg-Z	Q13-141	U65	Bass
B	Shaft			AK-3	FS-3	Not req.	Not req.	
R3A	1Meg	½	145212-000	B-69	A47-1Meg-S	Q11-137	U54	Treble
B	Shaft			Not req.	FS-3	Not req.	Not req.	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Stromberg-Carlson PART No.	IRC PART No.	
R4	10K			BTS-10K	
R5	470K			BTS-470K	
R6	22Meg			BTS-22Meg	
R7	100Ω			BTS-100	
R8	100Ω			BTS-100	
R9	10K	1		BTA-10K	
R10	100K			BTS-100K	
R11	1000Ω			BTS-1000	
R12	2200Ω			BTS-2200	
R13	5600Ω			BTS-5600	
R14	100Ω			BTS-100	
R15	10K			BTS-10K	
R16	470K			BTS-470K	
R17	330Ω			BTS-330	
R18	10K			BTS-10K	
R19	1000Ω			BTS-1000	
R20	2000Ω	10		PW10-2000	
R21	220Ω			BTS-220	
R22	22K			BTS-22K	
R23	10K			BTS-10K	
R24	5.6Meg			BTS-5.6Meg	
R25	10K			BTS-10K	
R26	1000Ω			BTS-1000	
R27	68Ω			BTS-68	
R28	1Meg			BTS-1Meg	
R29	1000Ω			BTS-1000	
R30	68Ω			BTS-68	
R31	2.2Meg			BTS-2.2Meg	
R32	220K			BTS-220K	
R33	47K			BTS-47K	
R34	470K			BTS-470K	
R35	220K			BTS-220K	
R36	220K			BTS-220K	
R37	1000Ω			BTS-1000	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Stromberg-Carlson PART No.	IRC PART No.	
R38	68Ω			BTS-68	
R39	100K			BTS-100K	
R40	2.2Meg			BTS-2.2Meg	
R41	470K			BTS-470K	
R42	68K			BTS-68K	
R43	68Ω			BTS-68	
R44	10K 5%			BTS-10K 5%	
R45	470K			BTS-470K	
R46	2200Ω			BTS-2200	
R47	10K 5%			BTS-10K 5%	
R48	15K			BTS-15K	
R49	100K			BTS-100K	
R50	5600Ω			BTS-5600	
R51	150K			BTS-150K	
R52	470K			BTS-470K	
R53	100K			BTS-100K	
R54	5600Ω			BTS-5600	
R55	1Meg			BTS-1Meg	
R56	47K			BTS-47K	
R57	1000Ω			BTS-1000	
R58	10Meg			BTS-10Meg	
R59	220K			BTS-220K	
R60	100K			BTS-100K	
R61	330K			BTS-330K	
R62	47K			BTS-47K	
R63	470K			BTS-470K	
R64	100K			BTS-100K	
R65	47K			BTS-47K	
R66	220K			BTS-220K	
R67	22K			BTS-22K	
R68	1800Ω			BTS-1800	
R69	27K 5%			BTS-27K 5%	
R70	1Meg			BTS-1Meg	
R71	47K 5%			BTS-47K 5%	

PARTS LIST AND DESCRIPTIONS (Continued)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Stromberg-Carlson PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	3A 250V			312003. (3AG 3A)	342001	AGC3	HKP

MISCELLANEOUS

ITEM No.	PART NAME	Stromberg-Carlson PART No.	NOTES
M2	Dial Light		#47
M3	Dial Light		#47
M4	Tuning Gang	110060-000	6 Gang (AM Sections: Ant. 35-495MMF, RF 28-342MMF, Osc. 21-138MMF)
M5	Switch	158688-000	Selector-Rotary Wafer Type
M6	Switch	158063-000	Pushbutton Assy.
	Knob	134302-000	Large
	Knob	134310-000	Small (With Dot)
	Pushbutton	107020-000	5 Used
	FM Dipole Ant.	139600-000	
	Dial Glass	122063-000	
	Dial Bezel	125080-000	
	Pointer	144031-000	
	Cabinet	108000-019	Mahogany

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (cont)

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Stromberg-Carlson PART No.	IRC PART No.	
R72	2200Ω			BTS-2200	
R73	47K			BTS-47K	
R74	220K			BTS-220K	
R75	220K			BTS-220K	
R76	470K			BTS-470K	
R77	47K			BTS-47K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Stromberg-Carlson PART No.	IRC PART No.	
R78	10K	10		PW10-10K	
R79A	1000Ω	12	149543-000		
R79B	1000Ω	12			
R80	180Ω	1		BTA-180	
R81	2000Ω	10		PW10-2000	

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	Stromberg-Carlson PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @ 1.4A	720VCT @ .185A	5VAC @ 3A	6.3VAC @ 3.3A SEC. 4 6.3VAC @ 2.3A	161458-000					

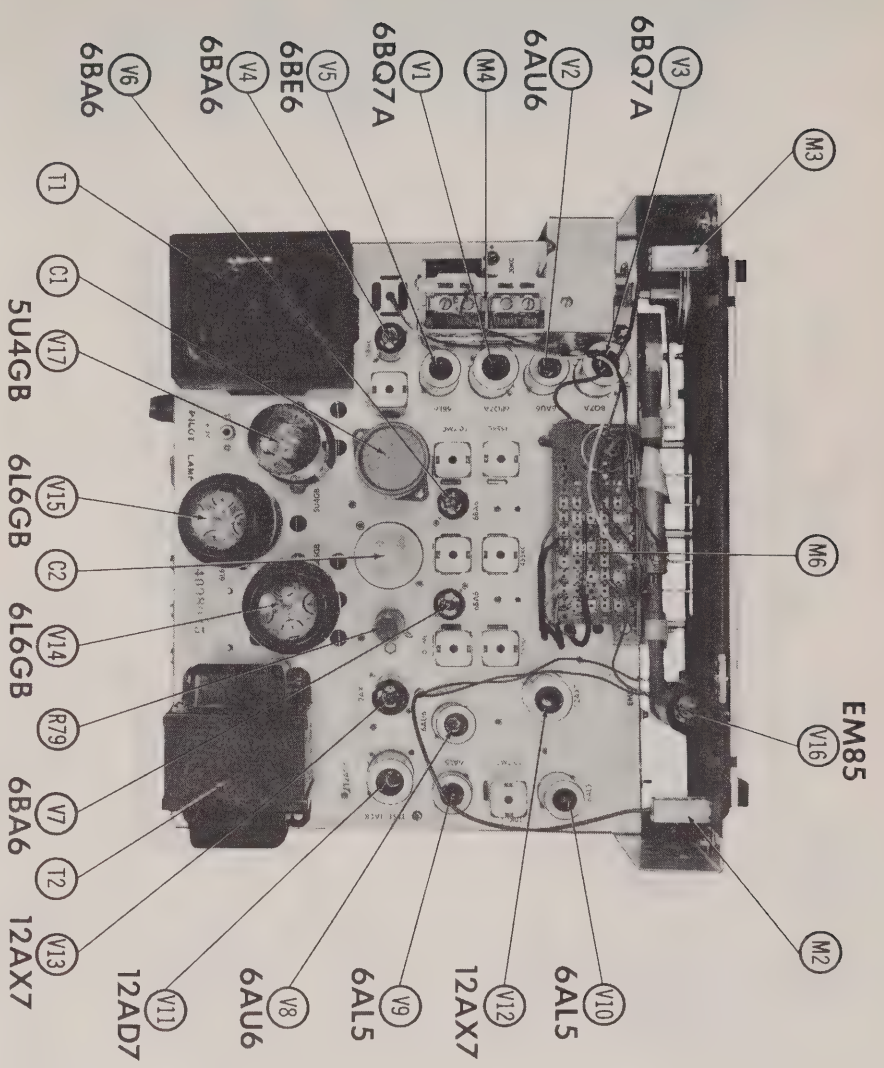
TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	Stromberg-Carlson PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	5500Ω CT	25VCT Taps @ 16, 8 & 4Ω	161297-000						
	Turns Ratio								
	PRI.	SEC.							
	45:	1							

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		Stromberg-Carlson PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Matching Trans.	114189-000			6202	
L2	Ant. Matching Trans.	114189-000			6202	
L3	FM Ant. Coil	114191-000				
L4	RF Neut. Coil	114193-000	19-1001		4606	1.7 Microhenry
L5	RF Choke	114693-000	19-1002	BC-563	4606	2.2 Microhenries, IRC Part #CLA
L6	FM RF Coil	114191-000				
L7	FM Osc. Coil	114190-000				
L8	Cathode Choke	114729-000			4588	.47 Microhenry, IRC Part #CLA
L9	RF Choke	114693-000	19-1002	BC-563	4606	2.2 Microhenries, IRC Part #CLA
L10	RF Choke	114729-000			4588	.47 Microhenry, IRC Part #CLA
L11	Loop Stick	139075-000				
L12	AM RF Trans.	114164-000				
L13	AM Osc. Coil	114188-000			70-Osc.	
L14	1st. FM IF	114363-000	16-3487	FM-254	1463	
L15	1st. AM IF	114469-000				
L16	Fil. Choke	114707-000			4588	.47 Microhenry, IRC Part #CL-1
L17	2nd. FM IF	114363-000	16-3487	FM-254	1463	
L18	2nd. AM IF	114469-000				
L19	Fil. Choke	114707-000			4588	.47 Microhenry, IRC Part #CL-1
L20	3rd. FM IF	114363-000	16-3487	FM-254	1463	
L21	3rd. AM IF	114468-000	16-6758	BC-353	12-C2	
L22	Ratio Det.	114467-000	17-3498	FM-255	1465	
L23	10KC Filter	153005-000				1 Henry

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	FM RF Amplifier	6BQ7A	
V2	FM Mixer	6AU6	
V3	FM Osc. -AFC	6BQ7A	
V4	AM RF Amplifier	6BA6	
V5	AM Converter	6BE6	
V6	1st. IF Amplifier	6BA6	
V7	2nd. IF Amplifier	6BA6	
V8	3rd. FM IF Amplifier-AM Det. -AVC	6AU6	
V9	Limiter	6AL5	
V10	Ratio Detector	6AL5	
V11	Phono Preamp.	12AD7	
V12	Mic Preamp. - 1st. AF Amplifier	12AX7	
V13	2nd. AF Amp. -Phase Inv.	12AX7	
V14	Output	6L6GT	
V15	Output	6L6GT	
V16	Tuning Indicator	EM85	
V17	Rectifier	5U4GB	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA Stromberg-Carlson PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	▲30	500	111140-000	AFH2-72	B0530	FP284	TMT-46	D-275	TVL-2973
B	■30	500							
C2A	▲40	450	111099-000	AFH3-44	C0350	FP377	TMT-40	T-170	TVL-3787
B	■40	450							
C	▲40	450							
C3	5	50	111093	PRS50V5	BBR5-50	TC30	TD-5-50	MMT-0505	TVA-1303

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA Stromberg-Carlson PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C4	100			SI 100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C5	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C6	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C7	1000		110893-000	EF-001	MFT-1000				503C-D1	
C8	4.7			NP0-SI 4.7	TCZ-4R7	C10V47C	TC0-4.7	ZT-5547	5TCCB-V47	NP0
C9	33			NP0-SI 33	TCZ-33	CTA6Q33C	TC0-33	ZT-5433	5TCC-Q33	NP0
C10	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C11	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C12	1000		110893-000	EF-001	MFT-1000				503C-D1	
C13	100			SI 100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C14	27			SI 27	D6-270	LT6Q27	GP-27	UC-5427	5GA-Q27	
C15	10			NP0-SI 10	TCZ-10	CTA6Q1C	TC0-10	ZT-541	5TCC-Q1	NP0
C16	10			N750-SI 10	TCN-10	CTA6Q1U	TC7-10	NT-541	5TCU-Q1	N750
C17	2.2			NP0-SI 2.2	TCZ-2R2	C10V22C	TC0-2.2		5TCCB-V22	
C18	1.5-10		110853-000							
C19	1000		110893-000	EF-001	MFT-1000				503C-D1	
C20	.1	200		P288N-1	DF-104	CUB2P1		GEM-401	2TM-P1	
C21	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA Stromberg-Carlson PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C22	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C23	1			NP0-SI 1	TCZ-1		TC0-1		5TCCB-V1	
C24	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C25	10			N750-SI 10	TCN-10	CTA6Q1U	TC7-10	NT-541	5TCU-Q1	N750
C26	100			SI 100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C27	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C28	5000			BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C29	5000			BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C30	5000			BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C31	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C32	47			SI 47	D6-470	LT6Q47	GP-47	UC-5447	5GA-Q47	
C33	47			SI 47	D6-470	LT6Q47	GP-47	UC-5447	5GA-Q47	
C34	100			SI 100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C35	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C36	100			SI 100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C37	50-270		110056-000							
C38	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C39	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C40	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C41	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C42	100			BPD-0001	DD-101	L10T1	ED-100	UC-531	5GA-T1	
C43	.22	200		P288N-22		CUB2P22		GEM-4022	2TM-P22	
C44	.001	400		BPD-001	DD-102	CUB4D1	GP-1000	GEM-421	5HK-D1	
C45	1000			EF-001	MFT-1000				503C-D1	
C46	330			BPD-00033	DD-331	L10T33	ED-330	UC-5333	5GA-T33	
C47	330			BPD-00033	DD-331	L10T33	ED-330	UC-5333	5GA-T33	
C48	330			BPD-00033	DD-331	L10T33	ED-330	UC-5333	5GA-T33	
C49	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C50	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C51	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C52	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C53	330			BPD-00033	DD-331	L10T33	ED-330	UC-5333	5GA-T33	
C54	1000			BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C55	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C56	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C57	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C58	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C59	4700			BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5GA-D47	
C60	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C61	.047	600		BPD-05	DF-503	CUB6S47		GEM-6147	6TM-S47	
C62	.047	600		BPD-05	DF-503	CUB6S47		GEM-6147	6TM-S47	

TRUETONE MODELS
D2781A, D2782A, D2783A

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

TRADE NAME	Truetone Models D2781A, D2782A, D2783A
SUPPLIER	Western Auto Supply Co., 2107 Grand Ave., Kansas City, Missouri
TYPE SET	AC-DC Operated AM Receiver
TUBES (Four)	Types 12AU6 Converter, 12AV6 Det.-AF Amp., 50C5 Output, 35W4 Rectifier
POWER SUPPLY	110-120 Volts AC-DC — RATING .28 Amp. @ 117 Volts AC (27 Watts)
TUNING RANGE—BROADCAST	540KC - 1650KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Use isolation transformer, if available. If not, connect a .1MFD capacitor in series with low side of signal generator and B-.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to antenna stator lug on tuning gang. Low side to B-.	455KC (400~ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001MFD to reduce hum modulation.
2.		Loop	1650KC	"	"	A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		"	1500KC	Tune to 1500KC signal.	"	A4	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. If A4 shows insufficient range, set A4 for mid range and adjust trimmer on opposite side of gang.

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."
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PARTS LIST AND DESCRIPTIONS

TRUETONE MODEL D2781A

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	Converter	12AU6	
V2	Det. -AF Amplifier	12AV6	
V3	Output	50C5	
V4	Rectifier	35W4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	TRUETONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	60	150	150-126	PRS150V503-010	BBRT53215	TCT3107	TDLT-6	FMT-315	R2395*
B	30	150							
C	10	150							

*Non Catalog Item

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	TRUETONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2	50			SI50	D6-500	LT6Q5	GP-50	UC-545	5GA-Q5	Note 1
C3	6.8		168-102							N5200
C4	10000			BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C5	.05	400	152-105	BPD-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C6	.2	600		P684CN-.2		CUB6P2		GEM-602	6TM-P2	Note 2

Note 1. Some versions may use 47MMF in this application. (Part #156-107).
Note 2. Some versions may use .1MFD in this application. (Part #156-108).

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	TRUETONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	2Meg	½	120-117	B-76	A47-2Meg-Z	Q13-139	U55	Volume
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
C	Switch			KB-1	SWE-12	76-1	US-26	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

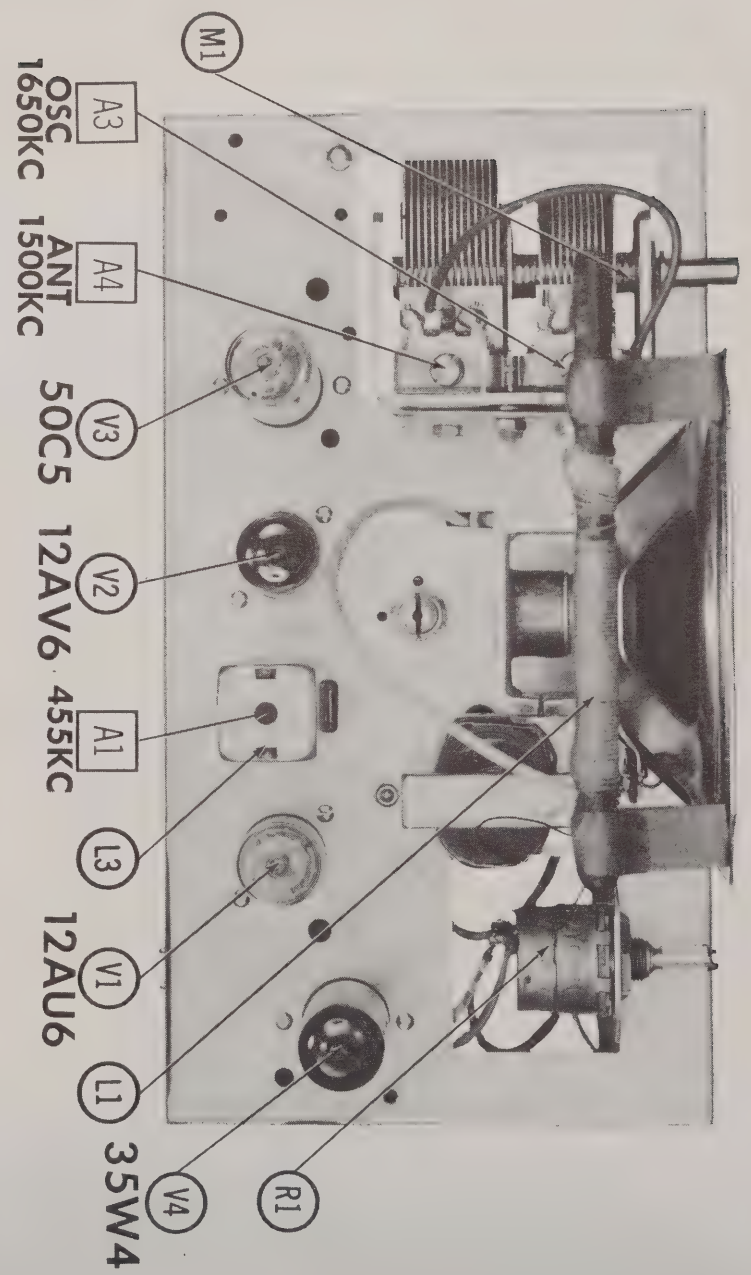
ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	TRUETONE PART No.	IRC PART No.	
R2	2.2Meg		180-107	BTS-2.2Meg	
R3	150Ω		180-111	BTS-150	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	TRUETONE PART No.	IRC PART No.	
R4	2200Ω	1	180-124	BTA-2200	
R5	68Ω	10			

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	TRUETONE PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	2500Ω	3-4Ω	Part of Spkr. 170-105	Z1101	A-3025	A-3332	22S45 ①	S-12X	① Drill New Mtg. Hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	TRUETONE PART No.	QUAM PART No.	
SP1	4"	PM	3-4Ω	170-105 ①	4A07	① Includes T1

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		TRUETONE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Loop Stick	134-110				
L2	Osc. Coil	136-124A				
L3	IF Trans.	130-106				

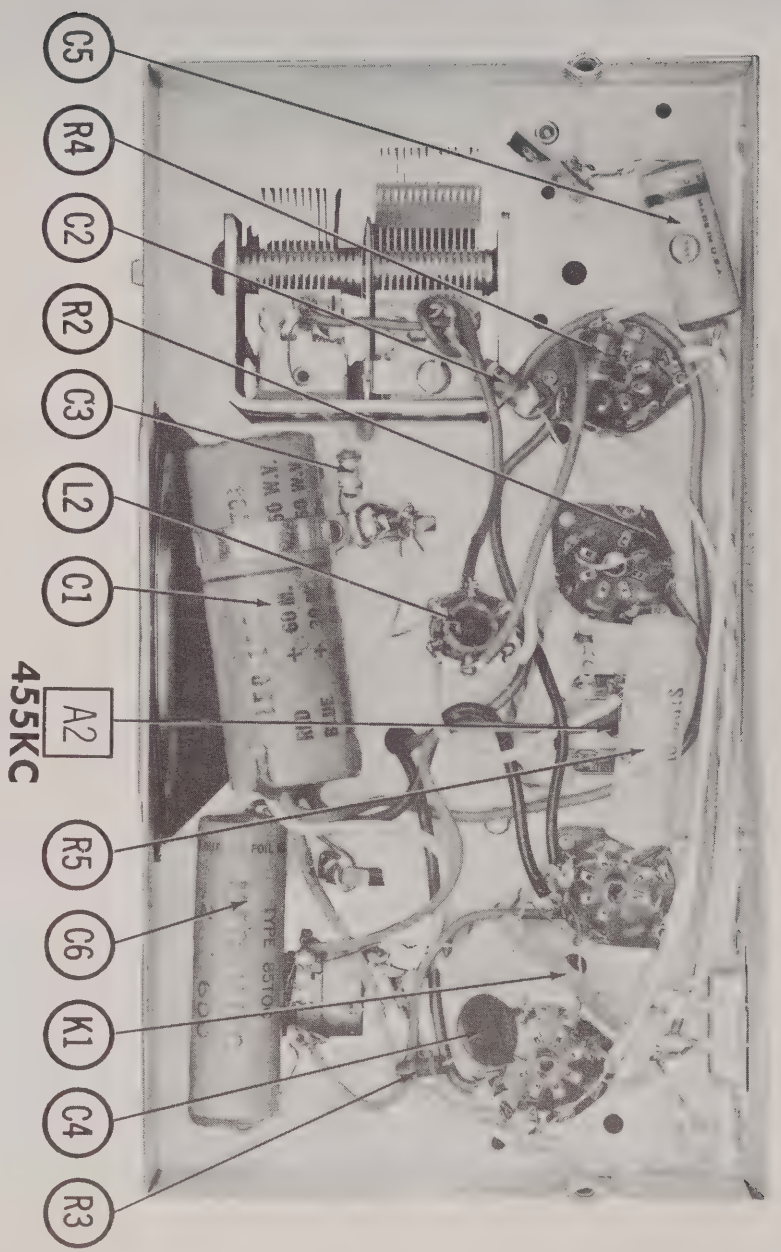
COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	TRUETONE PART No.	REPLACEMENT DATA
K1	Det.-Audio Net.	5000MMF, 220MMF, 250MMF, 5000MMF, 470K, 470K, 6.8Meg	166-111	Aerovox PA-113-2 Centralab PC-151 Cornell-Dubilier 116TM2 Erie 1408-02 Sprague DT-2

MISCELLANEOUS

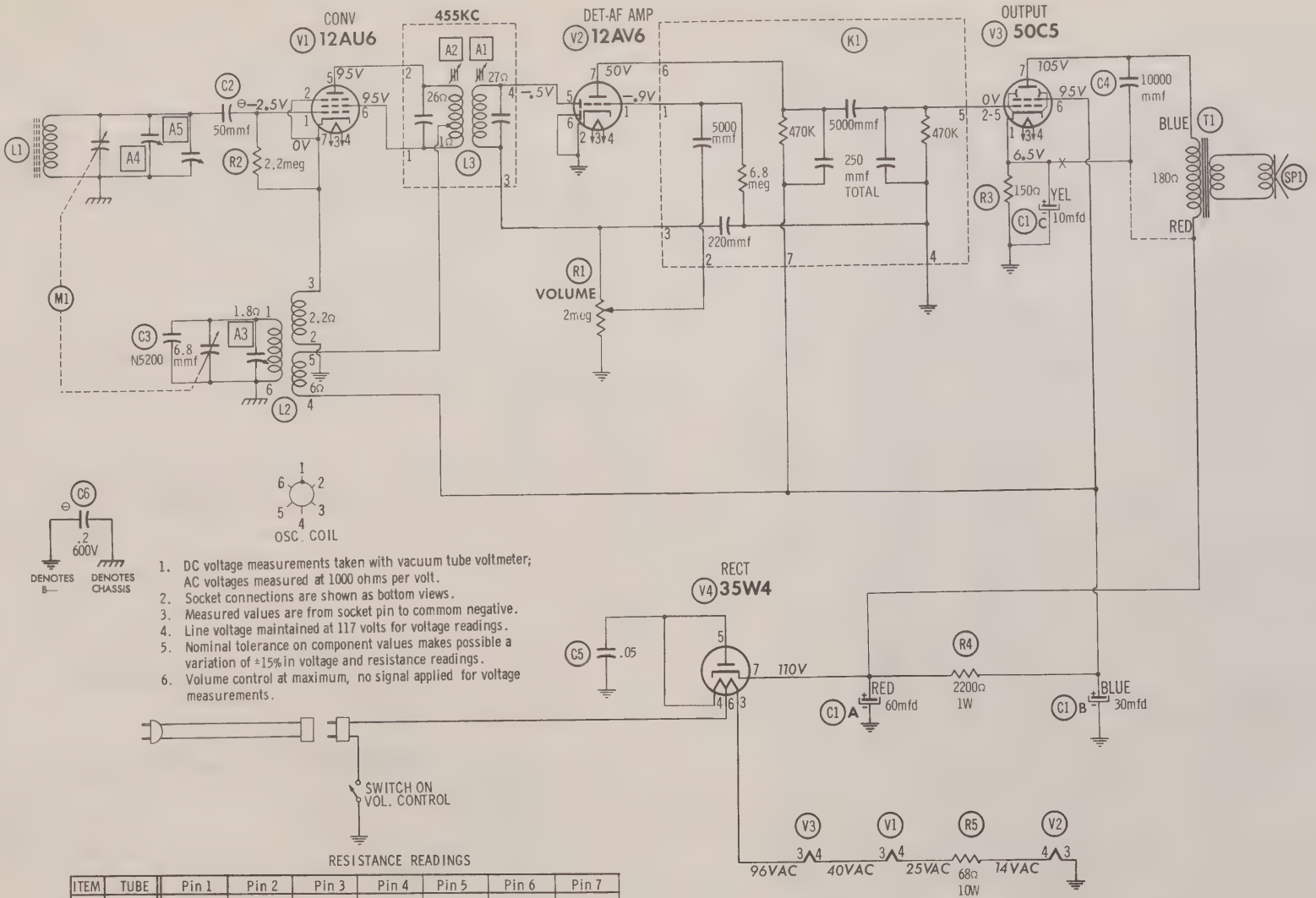
ITEM No.	PART NAME	TRUETONE PART No.	NOTES
M1	Tuning Gang	160-110	2 Gang (36-492MMF, 38-200MMF)
	Knob	220-132	Volume (Specify Color)
	Knob	220-133	Tuning (Specify Color)
	Cabinet	210-124	Specify Color

CHASSIS—BOTTOM VIEW



TRUETONE MODEL D2781A

TRUETONE MODEL D2781A



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to commom negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12AU6	2.2Meg	2.2Ω	87Ω	75Ω	† 2200Ω	† 2200Ω	2.2Ω
V2	12AV6	6.8Meg	0Ω	0Ω	13Ω	2Meg	0Ω	† 470K
V3	50C5	150Ω	470K	140Ω	87Ω	470K	† 2200Ω	† 180Ω
V4	35W4	TP	TP	140Ω	170Ω	170Ω	165Ω	20K (Min)

NC NO CONNECTION.
TP TIE POINT
† MEASURED FROM PIN 7 OF V4.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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364-15

TRUETONE MODEL 2D2720D

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The contents for this envelope will be found among the last folders in this complete set of folders . . . unless it has been purchased as part of a complete volume of PHOTOFACTS assembled in a DeLuxe Binder.

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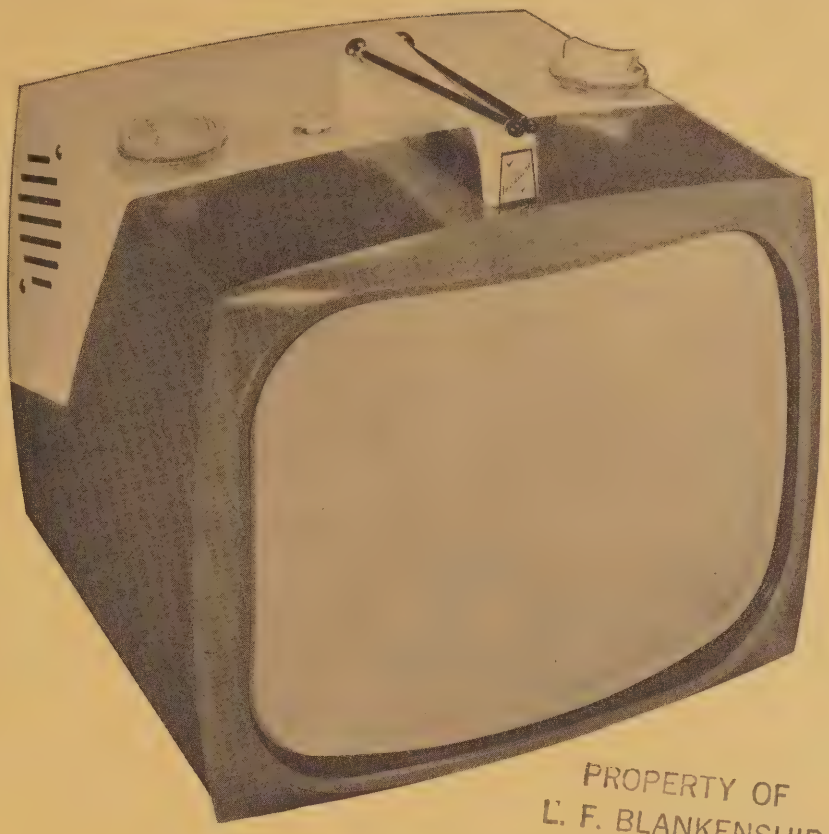

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3924 MEADE ST.
DENVER, COLORADO

TRADE NAME	Truetone Model 2D2720D
SUPPLIER	Western Auto Supply Co., 2107 Grand Ave., Kansas City, Mo.
TYPE SET	Television Receiver
TUBES	Thirteen

POWER SUPPLY 110-120 Volts AC, 60 Cycle RATING 115 Watts, 1 Amp. @ 117 Volts AC
TUNING RANGE Channels 2 thru 13 VHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

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TRUETONE MODEL 2D2720D

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DISASSEMBLY INSTRUCTIONS

CABINET REMOVAL

1. Remove 6 push-on type control knobs from the top.
2. Remove 4 metal screws and the rear cover.
3. Remove 2 metal screws and the AC interlock bracket.
4. Remove 2 speaker leads.
5. Place receiver face down on a soft pad.
6. Remove 2 metal screws from the front of the handle.
7. Remove 6 metal screws around the front edge of the cabinet.
8. Remove 2 chassis bolts from the bottom.
9. Lift cabinet up and off the chassis assembly.
10. Remove 2 hex nuts and the speaker.

CAUTION NOTE

ONE SIDE OF AC LINE CONNECTED TO CHASSIS
Care should be exercised when connecting test equipment or physically contacting the chassis

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TRUETONE
MODEL 2D2720D

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustment of the VHF oscillator is possible by removing the channel selector and fine tuning knobs. Set the fine tuning at the center of its range. One slug for HIGH band adjustment is located at 1 o'clock, and should be adjusted first. The LOW band adjustment is located at 5 o'clock. Adjust for best picture and sound.

PICTURE TUBE SAFETY GLASS CLEANING

For picture tube and safety glass cleaning, it is necessary to remove the chassis. (See disassembly instructions). Remove 4 metal screws holding the safety glass and mask inside the front of the cabinet. Remove the safety glass and mask.

FOCUS

The focus may be varied by the position of a strap on the base of the picture tube. The strap can be connected between pins 6 and 10 or 6 and 2. Readjust the ion trap for the best focus consistent with maximum brightness.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

For adjustment of the horizontal oscillator, it is necessary to remove the rear cover and supply power to set. Set the horizontal hold at the center of its range and adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally. (For location see tube placement chart).

FUSES

A 4.7Ω fusible resistor (R67) is used for LV power supply protection. (For location see tube placement chart).

CENTERING

Centering is accomplished mechanically by adjusting the two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

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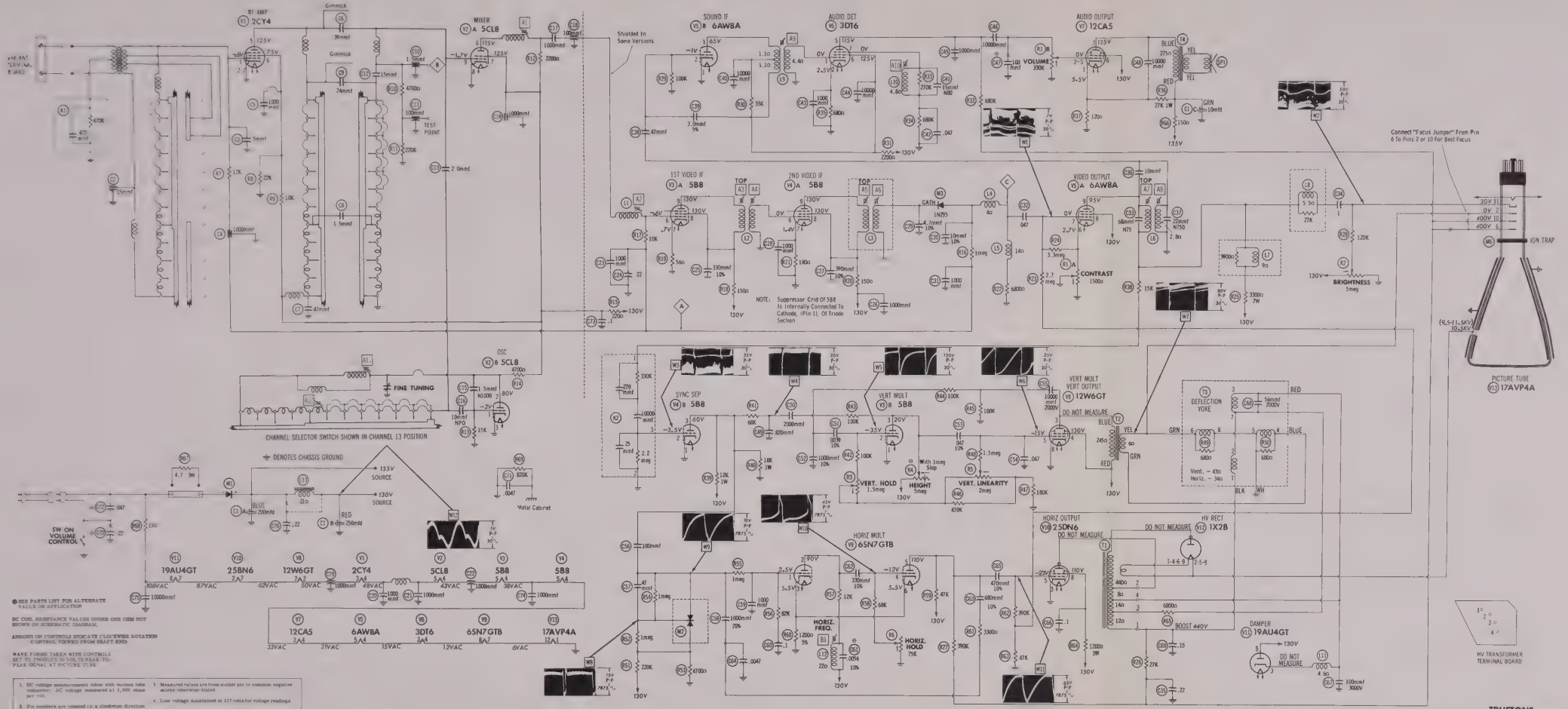

● SEE PARTS LIST FOR ALTERNATE VALUE ON APPLICATION

DC COIL RESISTANCE VALUES UNDER OHMS NOT SHOWN ON SCHEMATIC DIAGRAM.

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

WAVE FORMS TAKEN WITH CONTROLS SET TO PRODUCE 30 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE

1. DC voltage measurements taken with vacuum tube voltmeter. AC voltage measured at 1,000 ohms per volt.
2. Pin numbers are counted in a clockwise direction (standard notation).
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation, no signal applied.

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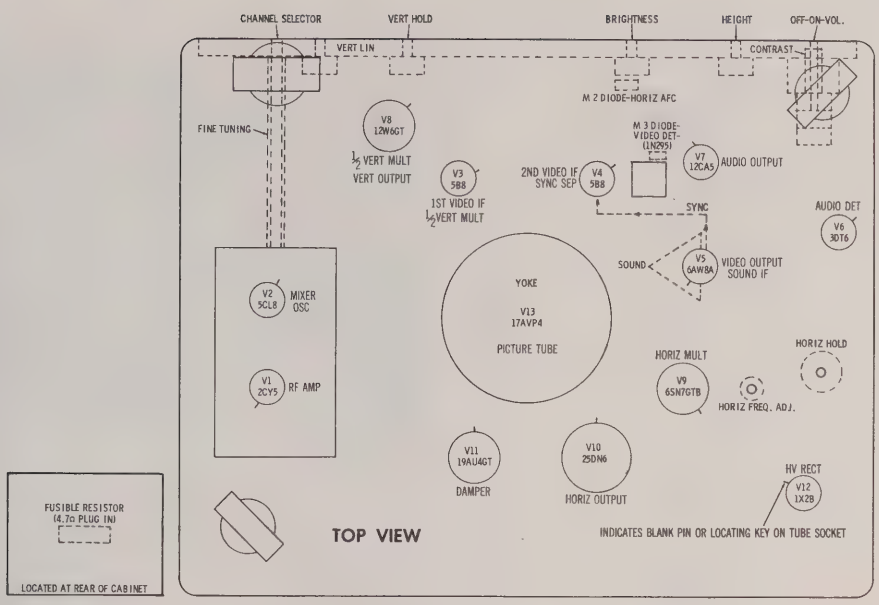
TRUETONE MODEL 2D2720D

TUBE PLACEMENT CHART



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TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

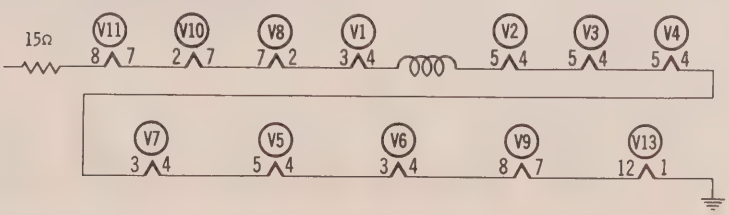
POWER SUPPLY FAILURE
No raster, no sound - **Fusible Resistor (R67), Rectifier (M1)**

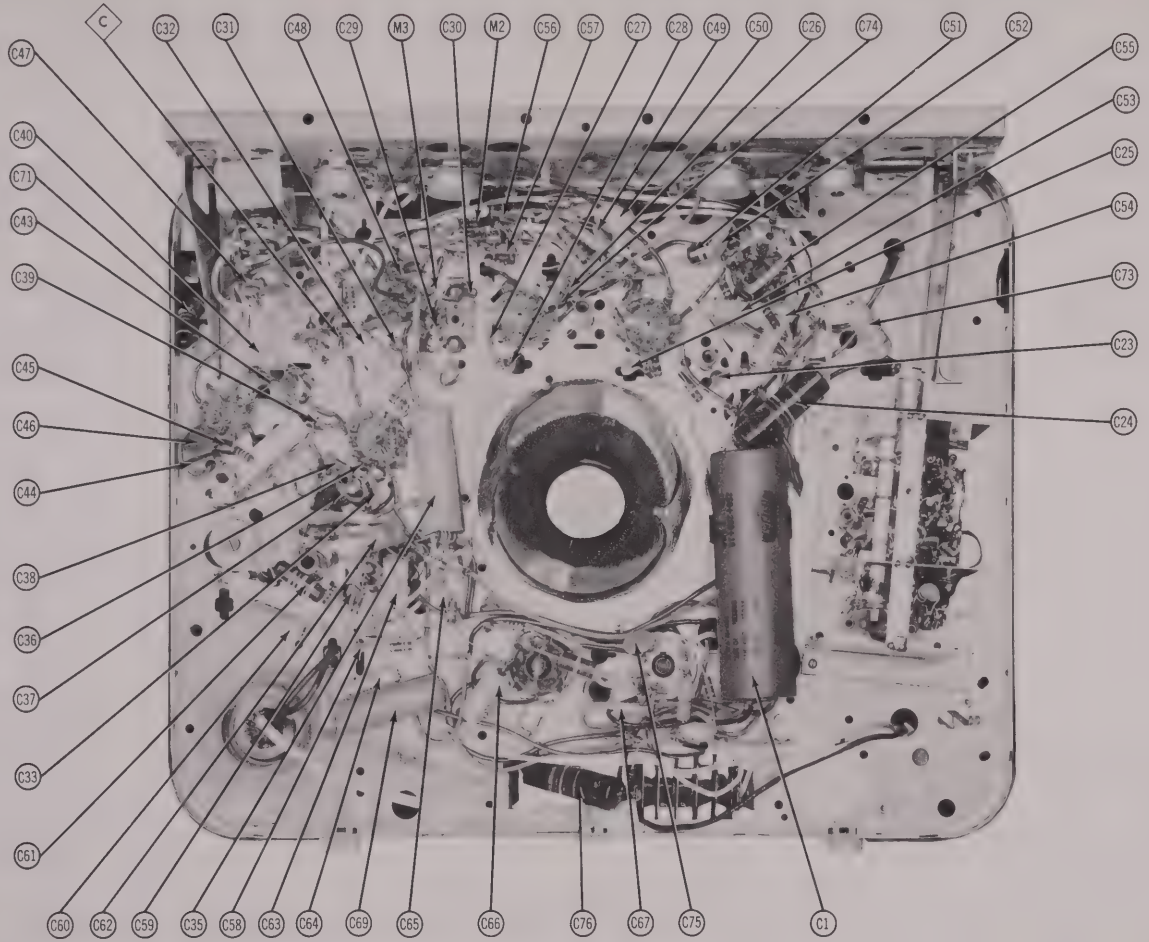
LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - **V3, V4, Diode (M3), V5**
No pic, no sound, has snow - **V1, V2**
No pic, has sound, has raster - **V5, V13**
Has pic, no sound - **V5, V6, V7**

SYNC FAILURE
No vert. sync - **V4**
No horiz. sync - **V4, Diode (M2)**
No vert. or horiz. sync - **V4**

SWEEP FAILURE
No raster, has sound - **M2, V9, V10, V11, V12, V13**
No vertical deflection - **V3, V8**
Poor vert. linearity or foldover - **V3, V8**
Poor horiz. linearity or foldover - **V9, V10, V11**
Narrow picture - **V9, V10, V11, M1**
Vert. off freq. - **V3, V8**
Horiz. off freq. - **V9**

This receiver employs tubes used in a series filament network, an open filament in any tube in the series will cause the set to be inoperative. (See circuit below.).





CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.
The High Voltage lead should be securely taped and kept away from the chassis.

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias supply to point Ⓐ. Positive to chassis.
Disable the oscillator by replacing the 5CL8 (V2) with a 5CL8 having pin 1 removed.
Short the antenna terminals.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	1000MC Ceramic Capacitor	High side to point Ⓑ. Low side to chassis.	44.0MC (10MC Swp)	42.75MC 45.75MC	Any non-interfering channel	Vert. Amp. thru detector (Fig. 1) to pin 9 (plate) of 5B8 (V3). Low side to chassis.	A1, A2	Adjust for response similar to Fig. 2 with markers in proper positions.
2.	"	High side to pin 6 (grid) of 5B8 (V3). Low side to chassis.	"	"	"	Vert. Amp. thru detector (Fig. 1) to pin 9 (plate) of V4. Low side to chassis.	A3, A4	"
3.	"	High side to pin 6 (grid) of 5B8 (V4). Low side to chassis.	"	"	"	Vert. Amp. thru 10K to point Ⓒ. Low side to chassis.	A5, A6	"
4.	"	High side to point Ⓑ. Low side to chassis.	"	"	"	"		Retouch A1 thru A6 as needed for response curve similar to Fig. 3. Remove bias and replace V2 in its socket.

SOUND IF ALIGNMENT

Set the contrast control fully clockwise.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	1000MMF Ceramic Capacitor	High side to point Ⓒ. Low side to chassis.	Not used	4.5MC (400∿ 30% AM)	Any non-interfering channel	Vert. Amp. thru detector (Fig. 4) to pin 11 (cathode) of picture tube. Low side to chassis.	A7	Turn A7 fully counter clockwise. Turn A8 fully clockwise. Turn A7 clockwise for MINIMUM 400∿ indication on scope.
6.	"	"	4.5MC (15KC Swp)	Not Used	"	Across secondary of output transformer.	A8, A9 A10	Use only enough sweep generator output to provide usable pattern on scope. Turn A10 fully counter clockwise. Adjust A8, A9 and A10 for maximum indication on scope. Remove test equipment and tune in a local TV station. Retouch A10 for MINIMUM buzz.

OSCILLATOR ALIGNMENT

Turn the set on and tune in the highest high band channel (7-13) operating in the area . Adjust A11 for best picture and sound, located above and to the right of the tuning shaft. Switch to the highest low band channel (2-6) operating in the area and adjust A12 for the best picture and sound. A12 is located directly below the tuning shaft.

RF AND MIXER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

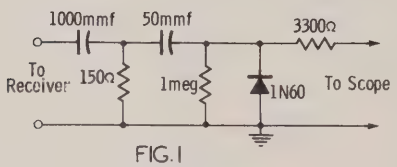


FIG. 1

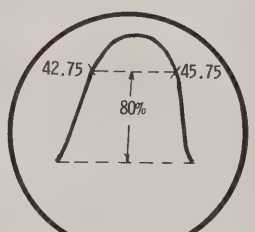


FIG. 2

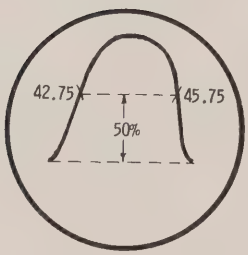


FIG. 3

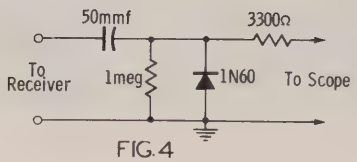
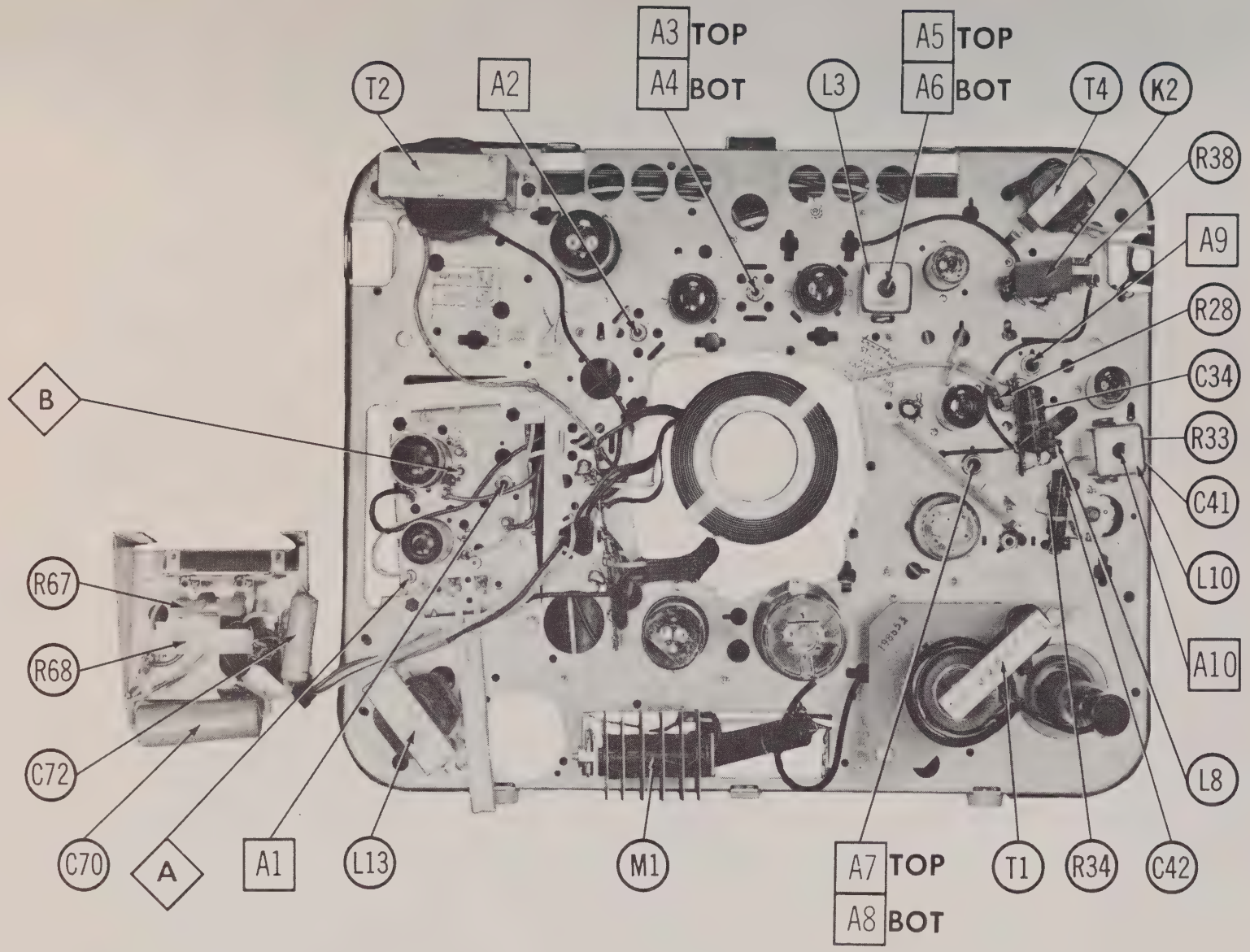


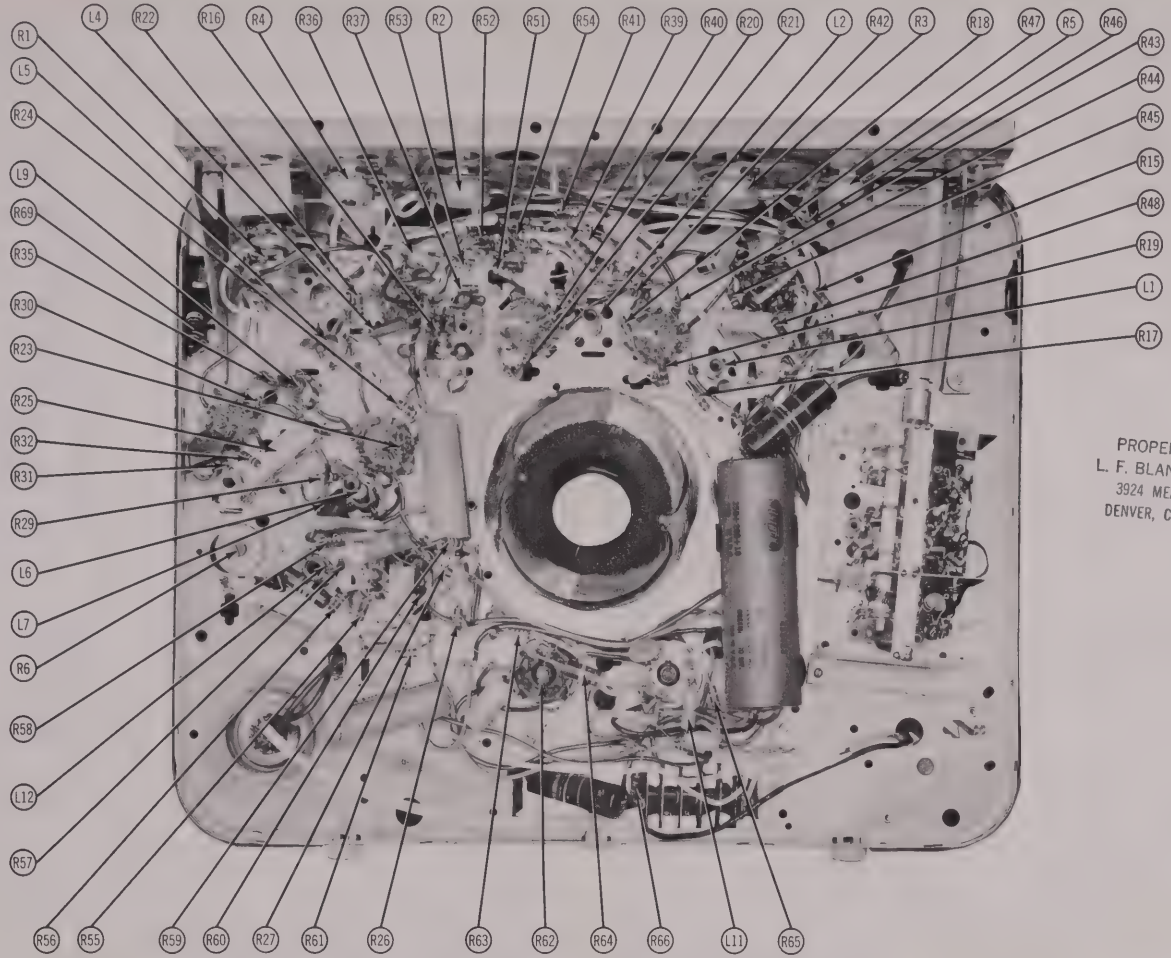
FIG. 4



CHASSIS TOP VIEW

2D2720D

TRUETONE MODEL

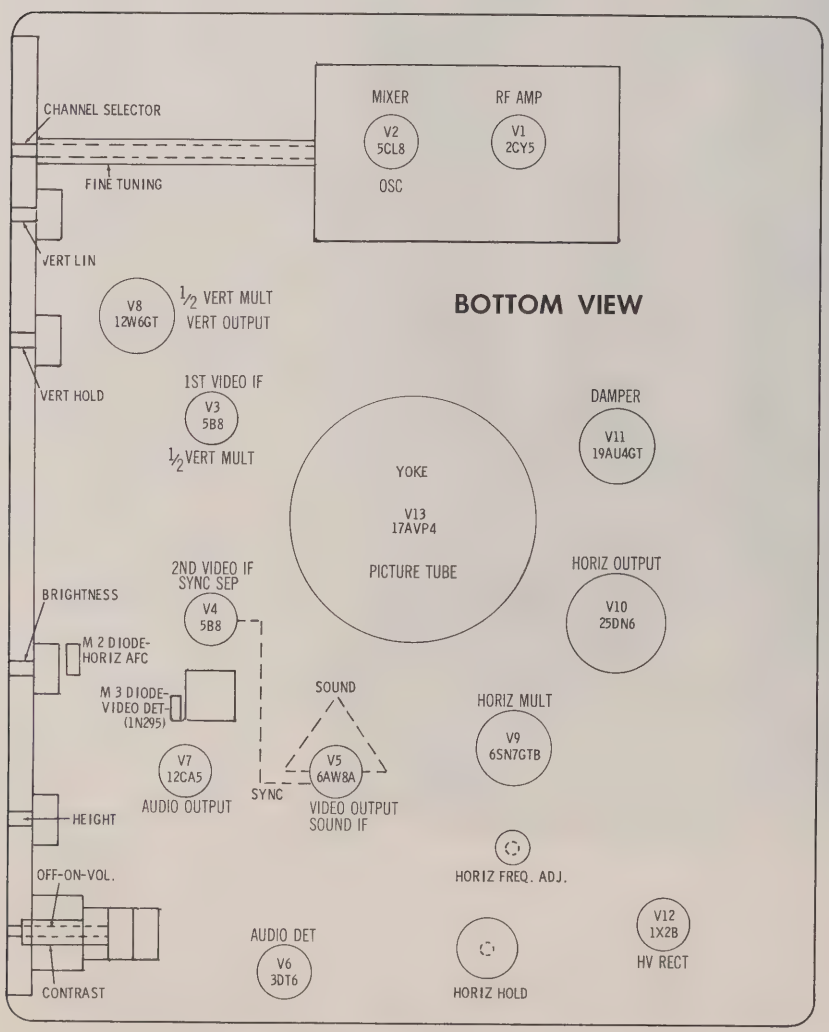


CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

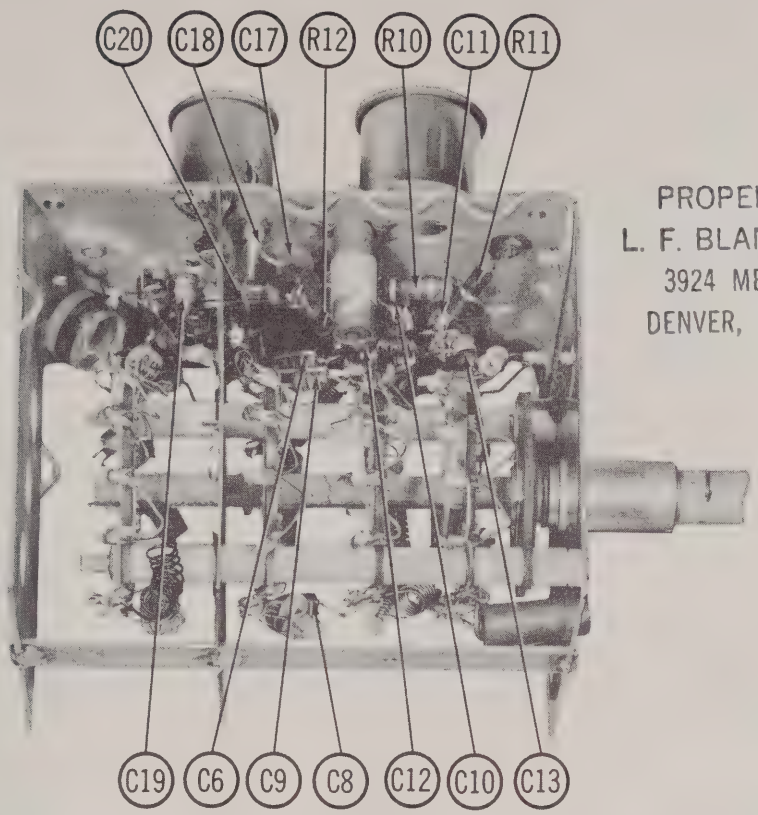
RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	2CY5	1Meg	0Ω	12Ω	11Ω	† 240Ω	† 10K	0Ω		
V2	5CL8	15K	† 5000Ω	0Ω	9.5Ω	11Ω	† 2400Ω	† 240Ω	0Ω	220K
V3	5B8	0Ω	• 1Meg	• † 1.4Meg	8.5Ω	9.5Ω	1Meg	56Ω	† 170Ω	† 170Ω
V4	5B8	0Ω	2.2Meg	† 7000Ω	7.5Ω	8.5Ω	.1Ω	180Ω	† 170Ω	† 170Ω
V5	6AW8A	0Ω	100K	† 35K	4Ω	5Ω	• 180Ω	1.5Meg	† 21Ω	† 3300Ω
V6	3DT6	4.4Ω	680Ω	4Ω	3Ω	‡ 700K	† 2200Ω	680K		
V7	12CA5	120Ω	0Ω	7.5Ω	5Ω	0Ω	† 21Ω	† 425Ω		
V8	12W6GT	TP	12Ω	† 260Ω	† 21Ω	• 1.8Meg	TP	14Ω	0Ω	
V9	6SN7GTB	1.7Meg	† 12K	1200Ω	• 90K	† 47K	1200Ω	1.5Ω	3Ω	
V10	25BN6	TP	20Ω	0Ω	NC	400K	NC	14Ω	† 1200Ω	TOP CAP ‡ 11Ω
V11	19AU4GT	NC	TP	¶	NC	† 21Ω	TP	20Ω	23Ω	
V12	1X2B		PINS	1 THUR 9	HAVE	INFINITE	RESISTANCE			TOP CAP ‡ 400Ω
V13	17AVP4	0Ω	12Ω	PIN 6 ‡ 27K	PIN 10 † 27K	PIN 11 • 210K	PIN 12 1.5Ω			

TP TIE POINT
NC NO CONNECTION
† MEASURED FROM OUTPUT OF M1.
• THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
‡ MEASURED FROM PIN 3 OF V11.
¶ THIS READING CAN VARY GREATLY, (10K MINIMUM), DUE TO THE CONDITION OF THE ELECTROLYTIC CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.



TUBE PLACEMENT CHART



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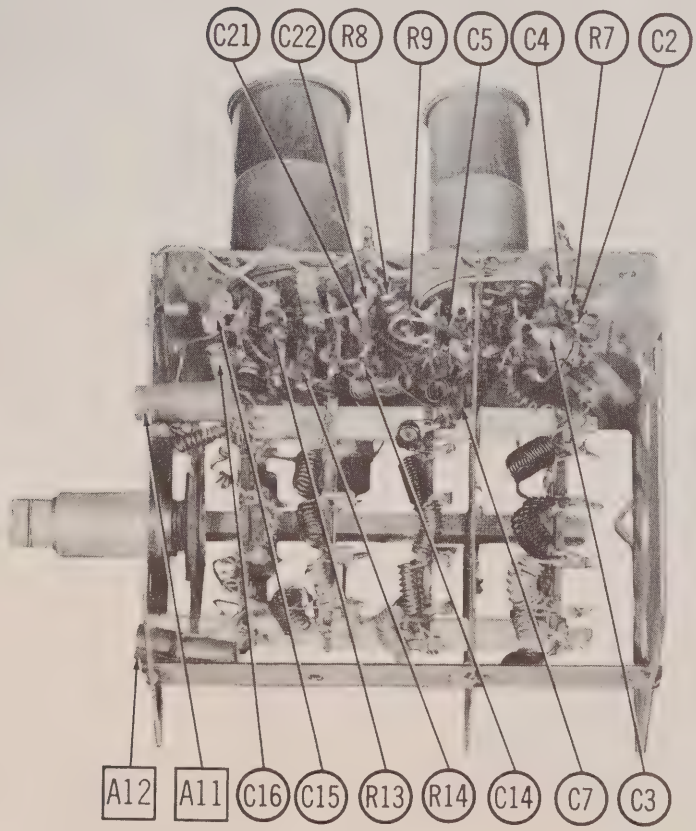
RF TUNER-RIGHT SIDE



RF TUNER-LEFT SIDE

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No	USE	TYPE	NOTES
V1	RF Amplifier	3CY5	
V2	Mixer-Osc	6CL8	
V3	1st Video IF Amp.- Vert. Mult.	6B6	
V4	2nd Video IF Amp - Sync Sep	6B6	
V5	Video Output-Sound IF Amp	6AW8A	
V6	Audio Det.	3DT6	
V7	Audio Output	12CA5	
V8	Vert Mult -Vert Output	12W8GT	
V9	Horiz Mult	6BN7GTB	
V10	Horiz Output	25DN6	
V11	Damper	19AU4GT	
V12	HV Rectifier	1X2B	

PICTURE TUBE

ITEM No	REPLACEMENT DATA			NOTES
	TRUETONE PART No	GENERAL ELECTRIC PART No	SYLVANIA PART No	
V13		17AVP4A	17AVP4A ②	1 Silver screen "85"
			17AVP4	2 Aluminized
			17ATP4A	
			17AVP4A①	

ELECTROLYTIC CAPACITORS

ITEM No	RATING		REPLACEMENT DATA						
	CAP	VOLT	TRUETONE PART No	AEROVOX PART No	CORNELL DUBILIER PART No	MALLORY PART No	PYRAMID PART No	SANGAMO PART No	SPRAGUE PART No
C1A	300	150	45A423	PR3-012	XC0129	WT330		D-095	R2213 *
B	250	150						MT-1510	
C	10	150							

* Non-catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA								NOTES
	CAP.	VOLT	TRUETONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.		
C2	15										
C3	5		BPD-000005	DD-050	L10Y5	ED-5	TT-555		5GA-V5		
C4	1000		EF-001	MFT-1000					5GC-D1		
C5	1000		BPD-001	DD-102	BYA8DL	ED-1000	DC8JL		5HK-D1		
C6	.39										
C7	47		BPD-000047	DD-470	L10Q47	ED-47	UC-5447		5GA-Q47		
C8	1.5		NPO-SI 1.5	TCZ-1R5	C10V15C	TCO-1.5	ZT-5R5		5TCCB-V15		
C9	.36										
C10	1.5										
C11	100										
C13	15		BPD-000015	DD-150	L10Q15	ED-15		UC-5415	5GA-Q15		
C14	3.6		NPO-SI 3.2	TCZ-3R3	C10V3C	TCO-3.3			5TCCB-V32		
C16	1000		EF-001	MFT-1000					5GC-D1		
C18	1.5										
C19	10		NPO-SI 10	TCZ-10	C10Q1C	TCO-10	ZT-541		5TCC-Q		N3000
C17	1000		BPD-001	DD-102	BYA8DL	ED-1000	DC8JL		5HK-D1		NPO
C20	100										
C18	1000		EF-001	MFT-1000					5GC-D1		
C19	1000		BPD-001	DD-102	BYA8DL	ED-1000	DC8JL		5HK-D1		
C20	1000		BPD-001	DD-102	BYA8DL	ED-1000	DC8JL		5HK-D1		
C22	1000		EF-001	MFT-1000					5GC-D1		
C23	1000		BPD-001	DD-102	BYA8DL	ED-1000	DC8JL		5HK-D1		
C24	33	200	4TA330	68HT33L3	P288N-33	CUB2P33		GEM-3033	2TM-P33		
C25	330		4TA331	1469-00033	GP-330	BS3733	ED-330		MS-333	10%	
C26	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C27	100		4TA359		GD-100	SR3739	ED-100		MS-319	20%	
C28	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C29	4.7		4TB405-8	NPO-SI 4.7	TCZ-4R7	C7A8V47C	TCO-4.7	ZT-5547	5TCCB-V47	10%	
C30	470		4TCA30A100K	NPO-SI 10	TCZ-10	C10Q1	ED-10	ZT-541	5TCC-V1	10%	
C31	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C32	.33	200	68HT33L3	P288N-33	CUB2P33			GEM-3033	2TM-P33		
C33	68		47-835								NT5
C34	.1	200	68HT104L3	P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1		
C36	.33	600	68HS33L6	P688N-33		CUB6P33		GEM-6033	6TM-P33		
C35	10		47A160-11	SI 10	DS-100	L75Q	GP-10		UC-541		
C37	33		47-834		TCM-33	CTA6Q33D	TCT-33		TCCC-Q33		N750
C38	47		47CA30A470M	SI 47	DS-470	L75Q47	GP-47	UC-5447		5GA-Q47	
C39	3.0		4TA307	NPO-SI 3.0		L75V3	TCO-3	ZT-585			5%
C40	10000		4TA294	BPD-01	DD-108	BYA8EL	ED-01	DC5JL	5HK-S1		N80
C41	15		4TB480								
C42	.047	200	68HT473L2	BPD-05	DF-503	CUB2S47		GEM-4147	2TM-S47		
C43	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C44	10000		4TA294	BPD-01	DD-108	BYA8EL	ED-01	DC5JL	5HK-S1		
C45	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C46	10000		4TA294	BPD-01	DD-108	BYA8EL	ED-01	DC5JL	5HK-S1		
C47	100			SI 100	D8-101	L79T1	GP-100	UC-531	5GA-T1		Note 1
C48	10000		4TA294	BPD-01	DD-103	BYA8EL	ED-01	DC5JL	5HK-S1		
C49	820		47-806	BPD-0008	D8-831	BYA0T822	ED-820		5GA-T12		
C50	3000		47A395	BPD-003	DD-303	BYA0D32	ED-003	DC8J3	5HK-D3		
C51	.0039	600	68HS392E4	1464-0039		1RS3E9			MS-392		10%
C52	1000		4TA396	1464-001		1RS1K	ED-1000	MCB2EL	MS-31		10%
C53	.047	300	68HT473E2								10%
C54	.047	200	68HT473E2	BPD-05		CUB2S47		GEM-4147	2TM-S47		10%
C55	10000	3000	47-706					GEM-1021	20HKH-S1		
C56	100		47CA30A101M	SI 100	D8-101	L79T1	GP-100	UC-531	5GA-T1		
C57	47		47CA30A470M	SI 47	D8-470	L79Q47	GP-47	UC-5447	5GA-Q47		
C58	1000		4TA330	SI 1000	DD-102	L80S	ED-1000	UC-5E	5GA-S1		20%
C59	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C60	.1	300	68HT104L3	P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1		
C61	.0056	400	68HS562E4	1464-0056		1DR5D56		MS-256	MS-347		10%
C62	330		47X30D33K	1469-00033	D8-331	5RS733	ED-330		MS-333		10%
C63	680		47X30S68K	1469-00068	D8-681	5RS738	ED-680		MS-368		10%
C64	.0047	600	68HT473E2	BPD-0047	D8-472	CUB6D47	ED-0047	GEM-6247	6TM-D47		
C65	.078		47X30D478K	1464-00047	D8-471	5RS747	ED-470		MS-347		10%
C66	.1	200	68HT104L2	P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1		
C67	100	3000	47-479	HVD-10-100	DD30-101	HVB30T1	H3H-100	DC3D31	20GA-T1		
C68	56	3000	47A857		DD30-560	HVA30G56	H3H-56	DC3D4S6	20GA-Q56		
C69	.15	600	68HT154L6	P688N-15		CUB6P15		GEM-6015	6TM-P15		
C70	.22	600	68HS224L6	P688N-23		CUB6P23		GEM-6023	6TM-P23		Note 1
C71	.0047	600	68HS47L6	BPD-0047	D6-472	CUB6D47	GP-4700	GEM-6247	6TM-D47		
C72	.047	600		BPD-05	DF-503	CUB6S47		GEM-6147	6TM-S47		Note 2
C73	.1	300	68HT104L3	P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1		
C74	1000		4TA330	BPD-001	DD-102	BYA8DL	ED-1000	DC8JL	5HK-D1		
C75	10000		4TA294	BPD-01	DD-103	BYA8EL	ED-01	DC5JL	5HK-S1		
C76	.33	200	68HT33L3	P288N-33		CUB2P33		GEM-2033	2TM-P33		

Note 1. Not used in some versions.
Note 2. Some versions use a .33MFD in this application.

CONTROLS

ITEM No	RATING	WATTS	REPLACEMENT DATA				INSTALLATION NOTES
			TRUETONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No	MALLORY PART No	
R1A	1500Ω	1	25B1429	F1-7	RTV-622		UF152R	Contrast
B	330K			S2-40		+ QI-1043	UR254L	Volume
C	Switch			KS-1			US-28	
R2A	5Meg	1	25B1434	AB-88		QI7-141	TA8S	Brightness
B	Shaft			AK-3		Not Req.	Not Req.	
R3A	1.5Meg	1	25B1436	B-7d1	A47-1.5Meg-③	QI-136	TA8L	Vert. Hold
B	Shaft			Not Req.	R3S-5	Not Req.	Not Req.	
R4A	5Meg	1	25B1437	AB-86 ①	A47-44Meg-③	QI-141 ①		Height with 1Meg stop①
B	Shaft			AK-19	RM-3			
R5A	2Meg	1	25B1435	AB-75	A47-32Meg-③	QI-139	PTA2EL	Vert. Lin.
B	Shaft			AK-18	RM-3	TQ		
R6A	75K	1	25-1305			BU-125	PTA1EL	Horiz. Hold
B	Shaft					TM2-K51	Not Req.	

* Concentrist Equivalent K-3 Kit, Base Elements & Shafts B17-108, B1-105 (Panel) B13-132, B1-115 (Rear)
T8-1 (Switch)

① Use 1Meg resistor in series with right hand terminal and 150V line.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	TRUETONE PART No	IRC PART No	
R7	12K			BTS-12K	
R8	22K			BTS-22K	
R9	10K			BTS-10K	
R10	4700Ω			BTS-4700	
R11	220K			BTS-220K	
R12	2200Ω			BTS-2200	
R13	15K			BTS-15K	
R14	4700Ω			BTS-4700	
R15	220Ω		33X30X33E	BTS-220	
R16	1Meg		33X30X105X		
R17	10K		33X30X103X		
R18	150Ω		33X30X151K	BTS-150	
R19	56Ω		33X30X560X	BTS-56	
R20	150Ω		33X30X151K	BTS-150	
R21	180Ω		33X30X181K	BTS-180	
R22	5900Ω		33X30X592X	BTS-5900	
R23	2.7Meg		33X30X275K	BTS- 2.7Meg	
R24	2.34Meg		33X30X235K	BTS- 2.34Meg	
R25	3300Ω	7	24-1123	PWT-3300	
R26	27K		33X30X273X	BTS-27K	
R27	390K		33X30X394K	BTS-390K	
R28	120K		33X30X124K	BTS-120K	
R29	100K		33X30X104K	BTS-100K	
R30	33K		33X30X333X	BTS- 33K	
R31	2200Ω		33X30X222X	BTS-3200	
R32	680K		33X30X684K	BTS-680K	
R33	270K		33X30X274K	BTS-270K	
R34	680K		33X30X684K	BTS-680K	
R35	680Ω		33X30X681K	BTS-680	
R36	27K	1	33X30X273X	BTA-27K	
R37	120Ω		33X30X121K	BTS-120	
R38	15K		33X30X153K	BTS-15K	

ITEM No	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	TRUETONE PART No	IRC PART No	
R39	12K	1	33X30X123K	BTA-12K	
R40	18K	1	33X30X183K	BTA-18K	
R41	68K		33X30X683X	BTS-68K	
R42	100K		33X30X104K	BTS-100K	
R43	100K		33X30X104K	BTS-100K	
R44	100K		33X30X104K	BTS-100K	
R45	100K		33X30X104K	BTS-100K	
R46	470K		33X30X474K	BTS-470K	
R47	180K		33X30X184K	BTS-180K	
R48	1.5Meg		33X30X155K	BTS-1.5Meg	
R49	680Ω		33X30X681X		
R50	680Ω		33X30X681K		
R51	220K		33X30X224K		
R52	1Meg		33X30X105K		
R53	470Ω		33X30X471K		
R54	1Meg		33X30X105K		
R55	1Meg		33X30X105K		
R56	22K		33X30X223K		
R57	12K		33X30X123K		
R58	68K		33X30X683K		
R59	47K		33X30X473K		
R60	1200Ω 5%		33X30X12J	BTS-1200 5%	
R61	3300Ω		33X30X332K	BTS-3300	
R62	390K		33X30X394K	BTS 390K	
R63	47K		33X30X473K	BTS-47K	
R64	1200Ω	2	33X40X123K	BTS-1200	
R65	6800Ω		33X30X682X	BTS-6800	
R66	150Ω		33X30X151K	BTS-150	
R67	4.7Ω	3	24B116		
R68	15Ω		24-1107	PW10-15	
R69	620K		33X30X624K	BTS-620K	

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No	USE	REPLACEMENT DATA							NOTES
		TRUETONE PART No	Hallderson PART No	Merit PART No	RCA TYPE No	Ram PART No	Stancor PART No	Thordarson PART No	Triad PART No	
T1	Horiz. Output	95A333		HVO-134				26S75 ①	A-10EX ②	
T2	Vert. Output	55-103	Z1900L ②	A-3923 ②				Y-16 ②	Y-41, WW4	
T3A	Yoke-Horiz. (25MH)	53-396	DF507 ②	MDF-912 ②	235R ②	Y90T19/48 ②	DY-18A ②		YCI ②	
B	(90°) Vert. (29MH)									
M5	Yoke Cover & Centering Device	31C358-D								

① Use 6 to 1 turns ratio.
② Drill new mounting hole(s).
③ Use original yoke damping network, rear cover and centering device.
④ Use original horizontal yoke damping network, if necessary.

TRANSFORMER (AUDIO OUTPUT)

ITEM No	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	TRUETONE PART No.	Hallderson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T4	4400Ω	3-4Ω	56A318	Z1007 ①	A-3026	A-3377(2)	26S50 ①	S-6X	① Drill one new mounting hole.

SPEAKER

ITEM No	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP	TRUETONE PART No.	QUAM PART No	
SP1	4"	PM	3-4Ω	85C175A	4A07	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		TRUETONE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No		
L1	1st. Video IF	51-3157			TV-131	6235	
L2	2nd. Video IF	51-3159					
L3	3rd. Video IF	52-252					
L4	RF Choke	53A307	19-1006		4634		16 Microhenries
L5	Shunt Peaking Coil	51-3103	19-1560		6148		710 Microhenries
L8A	4.5MC Trap	51B1696					
B	1st. Sound IF				TV-120		
L7	Shunt Peaking Coil	51-3101	19-4400 *		6134 *		396 Microhenries, wound on 3900Ω resistor
L8	Series Peaking Coil	51A3104	19-3160 a		6130 a		160 Microhenries, wound on 27K resistor
L9	2nd. Sound IF	51-3106					
L10	Capacitance Coil	51A1857					
L11	RF Choke	53-343					7.5 Microhenries, IRC part #CLA

* Parallel with 3900Ω resistor.
a Parallel with 27K resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No	DC RES		REPLACEMENT DATA						NOTES
	PRI	SEC.	TRUETONE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No	Ram PART No	Thordarson PART No	
L12	22Ω		51-3199	19-1575		6310 *			22S-4	7.5-30.5 Millihenries

* Enlarge mounting hole, 3900MMF capacitor may have to be used in place of .0056MFD capacitor.

FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE @ CURRENT 1000 ⁻½	TRUETONE PART No.	Hallderson PART No.	Merit PART No.	Stancor PART No	Thordarson PART No	Triad PART No
L13	.340A	21Ω	.31 HY.	56A364	C904L ①	C-292E ①	C-2328 ①	26C44 ①	C-37X

① Drill one new mounting hole.

COMPONENT COMBINATIONS

ITEM No	USE	DESCRIPTION	TRUETONE PART No	REPLACEMENT DATA	
K1	Ant. Isolation	470MMF, 470K		Centralab RC-471	
K2	Sync Take-off Couplate	270MMF, 10000MMF, 33MMF, 2.2Meg, 330K	49A046	Aerovox Centralab Sprague	PA533 PC-263 ST-3

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT (Measured)	TRUETONE PART No.	FEDERAL PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	
M1	.380A	27C326 ①	1023A ①	1N1007 ②	RS250SL ①	RS350 ①	350A ①	
M2		27C325 ①	1N5 ① ③		127 ① ③			

① Selenium type. ② Germanium type. ③ 2 required.

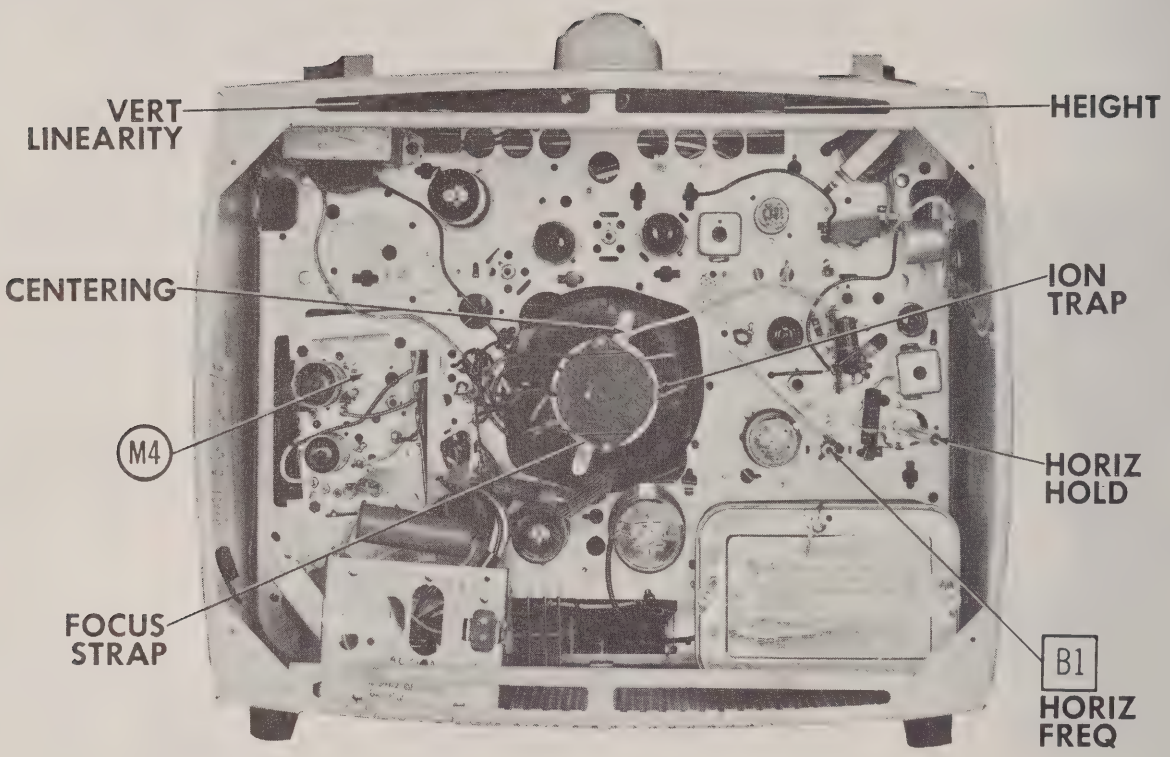
CRYSTAL DIODES

ITEM No.	OBIG. TYPE	REPLACEMENT DATA		NOTES
		TRUETONE PART No.	SYLVANIA PART No	
M3	1N295	19C1980	1N80	Video Det. (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	TRUETONE PART No.	NOTES
M4	Tuner	1-3453	VHF
M5	Centering Device	RC168-D	Includes rear yoke cover
M6	Ion Trap	B1B188	

TRUETONE MODEL 2D2720



CABINET—REAR VIEW

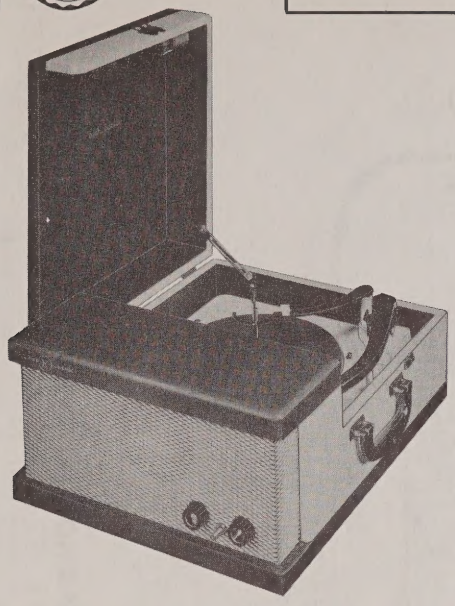
HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

1. Turn the set on and tune in a TV station, preferably with a test pattern.

2. Set the horizontal hold control at the center of its range and adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally.

3. Check horizontal sync on other stations and if necessary, retouch B1 for best sync action on all channels.

V-M
MODEL 1280

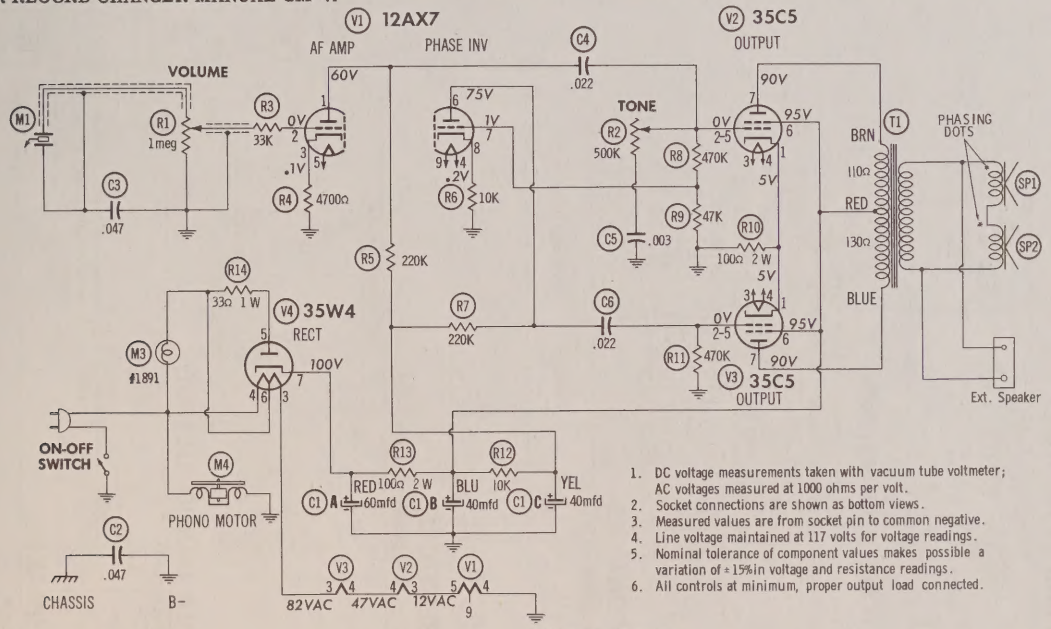


PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

V-M
MODEL 1280

TRADE NAME	V-M Model 1280
MANUFACTURER	V-M Corp., Benton Harbor, Mich.
TYPE SET	AC Operated Phono Amplifier With 4 Speed Automatic Record Changer
TUBES (Four)	Types 12AX7 AF Amp.-Phase Inv., (2) 35C5 Output, 35W4 Rectifier
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING .31 Amp. @ 117 Volts AC

FOR SERVICE INFORMATION ON RECORD CHANGER - SEE V-M MODEL 1200 - PHOTOFACT SET 290 FOLDER 11 OR RECORD CHANGER MANUAL CM-7.



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AX7	†230K	33K	4700Ω	0Ω	13Ω	†230K	47K	10K	6Ω
V2	35C5	100Ω	500K	13Ω	60Ω	500K	†100Ω	†210Ω		
V3	35C5	100Ω	470K	105Ω	60Ω	470K	†100Ω	†230Ω		
V4	35W4	NC	NC	105Ω	140Ω	165Ω	135Ω	50K		

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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† MEASURED FROM PIN 7 OF V4
NC NO CONNECTION

364-17

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PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	AF Amp. -Phase Inv.	12AX7	
V2	Output	35C5	
V3	Output	35C5	
V4	Rectifier	35W4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	V-M PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	60	150	12065		C0100	TCT3117		CST-1540	R2347 *
B	40	150							
C	40	150							

* Non catalog item

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	V-M PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2	047	600	12065	BPD-05	DF-503	CUB6S47		GEM-6147	6TM-S47	
C3	047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C4	022	400	12026	BPD-02	DD-203	CUB4S22	ED-02	GEM-4122	4TM-S22	
C5	003	400	12004	BPD-003	D6-302	CUB6D3	GP-3000	GEM-623	6TM-D3	
C6	022	400	12026	BPD-02	DD-203	CUB4S22	ED-02	GEM-4122	4TM-S22	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	V-M PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	1Meg	½	11993	B-70				Volume
B	Shaft			Not req.				
R2A	500K	½	11997	B-60	A47-500K-Z	Q13-133	U48	Tone
B	Shaft			Not req.	KSS-3	Not req.	Not req.	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	V-M PART No.	IRC PART No.	
R3	33K		11093	BTS-33K	
R4	4700Ω		10893-10	BTS-4700	
R5	220K		11293	BTS-220K	
R6	10K		10973	BTS-10K	
R7	220K		11293	BTS-220K	
R8	470K		11373	BTS-470K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	V-M PART No.	IRC PART No.	
R9	47K		11133	BTS-47K	
R10	100Ω	2	10495	BTB-100	
R11	470K		11373	BTS-470K	
R12	10K		10973	BTS-10K	
R13	100Ω	2	10495	BTB-100	
R14	33Ω	1	10374	BTA-33	

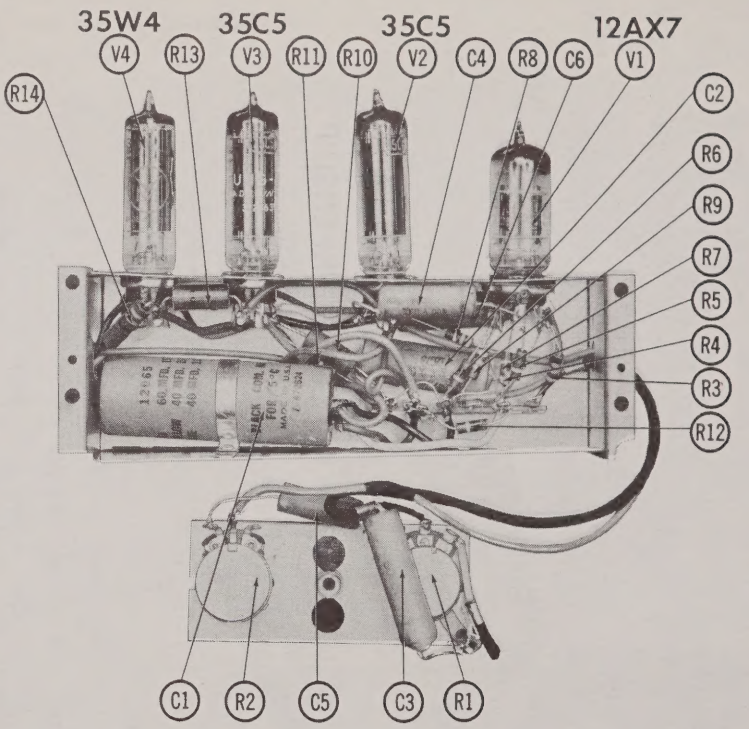
TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	V-M PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	3700Ω CT	6-8Ω	Part of Spkr. 9931	Z1000	A-2900	A-3856 ①	24S60	S-51X	① Bend mounting ears down.

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	V-M PART No.	QUAM PART No.	
SP1	5"	PM	3-4Ω	9931 ① ②	5A1 ②	① Includes T1
SP2	5"	PM	3-4Ω	9932 ②	5A1 ②	② Connect in series & phase

CHASSIS—BOTTOM VIEW



PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA					REMARKS
	V-M PART No.	ASTATIC PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	MOUNT	
M1	7447-A			56	PT-1	

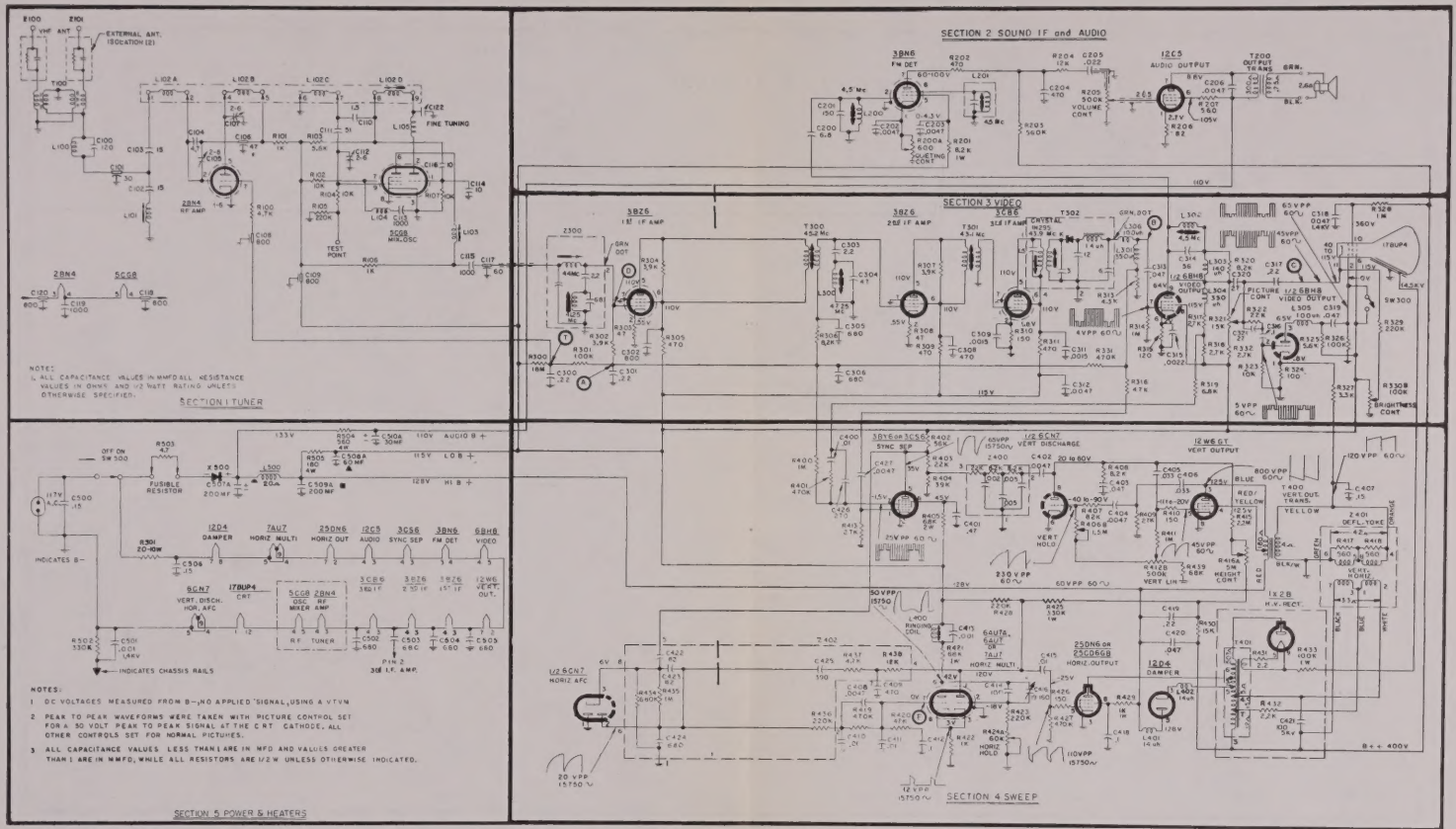
PHONO NEEDLE

(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

ITEM No.	REPLACEMENT DATA			REMARKS
	V-M PART No.	JENSEN PART No.	WALCO PART No.	
M2		† CRA55 or † CRA55LP or ♦ CRA55D or ♦ CRA55LPD	† W-64S or † W-64MGS	† Jewel ♦ Diamond

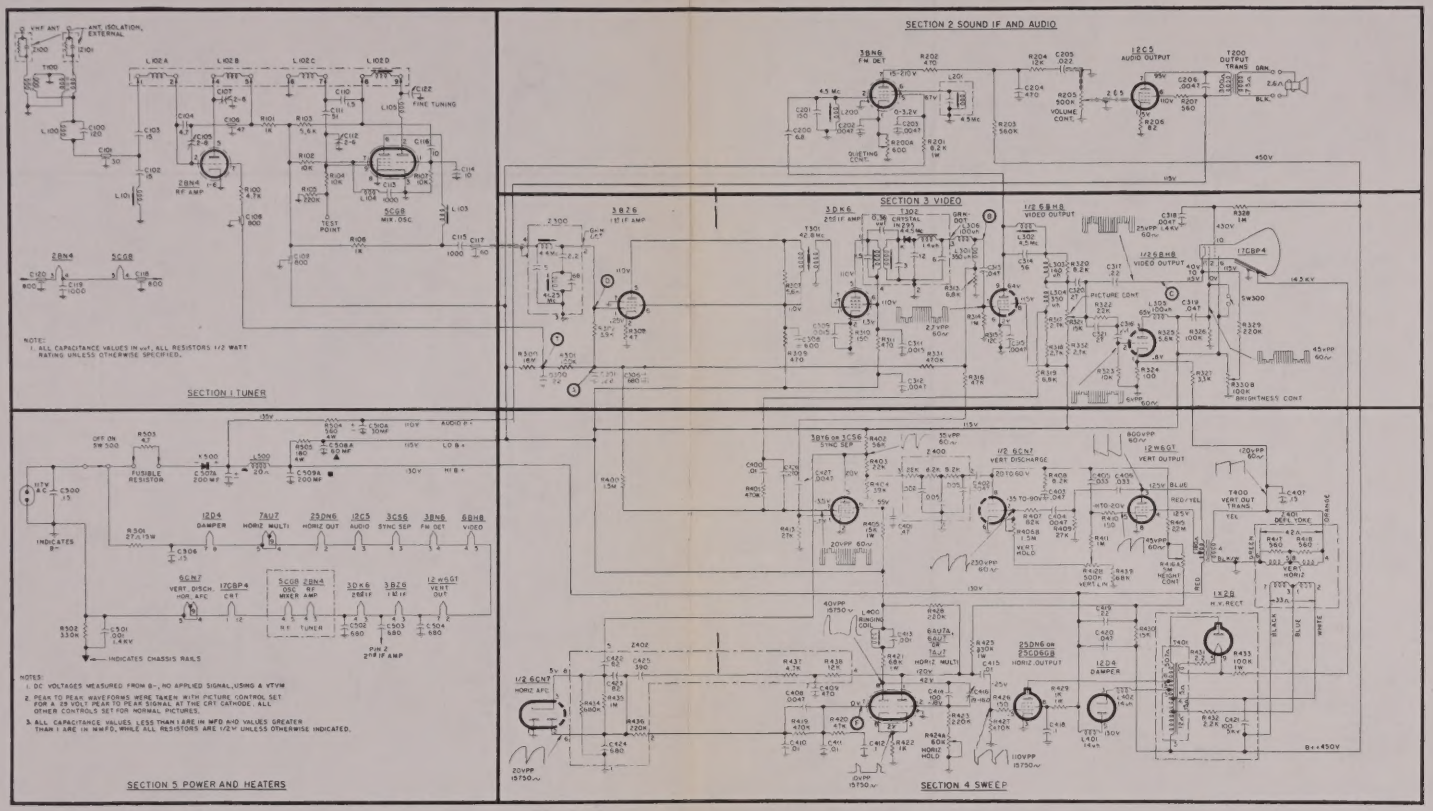
MISCELLANEOUS

ITEM No.	PART NAME	V-M PART No.	NOTES
M3	Pilot Light	7791	#1847
M4	Phono-Motor		
	Knob	6779	Volume and Tone
	Handle	6073	
	Cabinet	9818A	


SECTION 1 TUNER
SECTION 2 SOUND IF and AUDIO
SECTION 3 VIDEO
SECTION 4 SWEEP
SECTION 5 POWER & HEATERS
NOTES:
1 ALL CAPACITANCE VALUES IN MMFD ALL RESISTANCE VALUES IN OHMS AND 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.
NOTES:
1 DC VOLTAGES MEASURED FROM B— NO APPLIED SIGNAL, USING A VTVM
2 PEAK TO PEAK WAVEFORMS WERE TAKEN WITH PICTURE CONTROL SET FOR A 50 VOLT PEAK TO PEAK SIGNAL AT THE CRT CATHODE, ALL OTHER CONTROLS SET FOR NORMAL PICTURES.
3 ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MFD AND VALUES GREATER THAN 1 ARE IN MMFD, WHILE ALL RESISTORS ARE 1/2 W UNLESS OTHERWISE INDICATED.

AIRLINE
MODELS
GTM4031A
GTM4131A

SCHEMATIC COURTESY OF MONTGOMERY WARD & CO.


SECTION 1 TUNER
SECTION 2 SOUND IF AND AUDIO
SECTION 3 VIDEO
SECTION 4 SWEEP
SECTION 5 POWER AND HEATERS
NOTES:
1. ALL CAPACITANCE VALUES IN mmf, ALL RESISTORS 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.
NOTES:
1. DC VOLTAGES MEASURED FROM B-, NO APPLIED SIGNAL, USING A VTVM
2. PEAK TO PEAK WAVEFORMS WERE TAKEN WITH PICTURE CONTROL SET FOR A 25 VOLT PEAK TO PEAK SIGNAL AT THE CRT CATHODE. ALL OTHER CONTROLS SET FOR NORMAL PICTURES.
3. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MFD AND VALUES GREATER THAN 1 ARE IN MMFD, WHILE ALL RESISTORS ARE 1/2W UNLESS OTHERWISE INDICATED.

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

AIRLINE
MODELS
GTM4032A
GTM4132A

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